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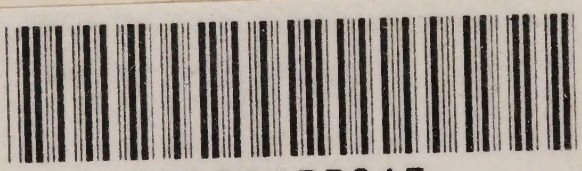
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HALF-YEARLY ABSTRACT

OF THE

MEDICAL SCIENCES.

JANUARY—JUNE.

1871.

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THE

HALF-YEARLY ABSTRACT

OF THE

MEDICAL SCIENCES:

BEING

A DIGEST OF BRITISH AND CONTINENTAL MEDICINE,

AND OF

THE PROGRESS OF MEDICINE AND THE COLLATERAL SCIENCES.

Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis
CICERO.

EDITED BY

WILLIAM DOMETT STONE, M.D., F.R.C.S. (EXAM.)

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HALF-YEARLY ABSTRACT

OF

THE MEDICAL SCIENCES,

ETC.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, & THERAPEUTICS.

SECT. I.—GENERAL QUESTIONS IN MEDICINE.

Art. 1.—*On Scurvy.*

By M. A. Legroux.

(*Gazette Hebdomadaire*, No. 6, 1871.)

The following interesting report on scurvy is based upon observations made during an epidemic of this disease which appeared in Paris at the time of the first siege:—

"The disease attacked men more frequently than females, and in an enormous proportion. Out of 200 scorbutic patients but three or four females were met with. And yet females appeared to yield readily to this cachexia. Many of them indeed in the labouring population had subsisted in a very problematical fashion. Without work, and often without resources, and anæmic as the females of large cities generally are, many had very little fuel, and lived with difficulty on some rice and a small amount of wine, obstinately refusing to eat horse-flesh.

"There was so much variety in these cases of scurvy with regard to the commencement of the affection, the order in which the different symptoms made their appearance, the very existence even of these symptoms, and their intensity; and there was also so little resemblance between the benign cases and those that were severe and fatal, that it was necessary to have in view a gradually increasing series from one to the other of these two extremes in order to form any idea of the actual epidemic. One was able to establish rigorously three stages of the disease. When these succeeded each other regularly, one observed an initial period characterized by an acneiform eruption and by the first gingival and palatine manifestations. At this stage the general condition of scurvy is not well marked; the first stage was sometimes so insignificant that I saw many persons reputed healthy who walked about without the least suspicion that scurvy had commenced in them, in whom there could be made out an acneiform eruption, frequently

abundant, and one or two fungosities in the dental interstices. After a variable period the patients enter upon the second stage, that of extensive ecchymosis, large subcutaneous and deep-seated effusions of blood, and very abundant and voluminous fungosities of the gums. Finally comes the third period, which is established gradually, and at first scarcely distinguishable from the second period; we have now great cachexy, in which are observed serious complications: syncope, pleural effusions, various forms of hæmorrhage, diarrhœa, general puffiness, an earthy tint of the skin, and sometimes death.

"I have just said that there is no regularity in scurvy. Some subjects present symptoms of the initial stage and progress no further, these seem to be affected but very superficially; others pass hurriedly through the two first stages and arrive at the stage of scorbutic cachexia. There is also great inequality in the intensity of the different manifestations, as, for example, extensive and deep-seated effusions of blood may be produced before the gums and arch of the palate have shown the least sign of any morbid change. In some instances even the buccal lesions are absolutely *nil*, whilst in all other parts the disease is manifested in great severity. A young man was admitted into La Pitié about the middle of September with typhoid fever, and afterwards, during his convalescence, had a very serious relapse of this fever from which, however, he recovered. He was then attacked with scurvy, and presented large subcutaneous ecchymoses. In the month of January he succumbed to a vast sero-sanguinolent effusion in one pleura. At no period of the scorbutic attack were the gums of this patient affected. It may be stated that his teeth were remarkably good and healthy.

"In studying the succession of the symptoms of scurvy and the predominance of this or that symptom, it seemed to me that the appearance and the course of the scorbutic manifestations might have been decided by local or general predispositions. There may be at certain points some cause for hæmorrhage in the existence of old cicatrices, or the presence of lesions of the skin or mucous membranes, and a tendency to certain complications, created by antecedent maladies. In short, scurvy has not a well-marked individuality, as it readily yields to the impressions made by a previous malady. In this way may be explained all the irregularities of this disease, and the difficulty one often experiences in clearly tracing its phases and periods.

"In order to give examples of this tendency and predisposition, I will cite some facts. A young man detained in La Roquette had, during his stay in this prison, obstinate rheumatic pains in the right ankle, which were treated by the application of tincture of iodine to each side of the joint. At the two recently irritated points the first cutaneous ecchymosis of an attack of scurvy appeared. In another prisoner a large blister had been applied to the inner surface of the left thigh. Some weeks afterwards, when the blister had already healed, the first blood effusion of a commencing attack of scurvy made its appearance here. If patients bear upon the legs old cicatrices from burns, varicose ulcers or simple boils, one will certainly see interstitial hæmorrhage collected by preference about these spots.

"The acneiform eruption, which is a special lesion of scurvy, may,

it seems to me, be explained in an analogous way. The places of election of this eruption are especially the external surface of the leg, the posterior part of the calf, and the anterior surface of the thigh. But it is exactly at these parts that the friction of the trousers acts incessantly on the hairs secreted by the follicles, and so sets up a slight irritation, particularly on rough, dry and dirty skin. This irritation is sufficient to call forth in these regions the first cutaneous manifestation of scurvy. Here is another proof. The prurigo, which is so common in hospital patients and in prisoners, itself becomes hæmorrhagic as soon as scurvy is manifested. The same thing occurs also in lesions of the gums; it is near carious broken teeth encrusted with tartar that the earliest fungosities make their appearance.

"If from these initial lesions we pass to the symptoms that, in the course of scurvy, are facilitated and provoked by antecedent general or local maladies, we shall find that in individuals whose lungs are affected with tubercle, in those who have bronchitis, and in those who present tubercular or other lesions of the intestines, pleural effusion in the former cases and diarrhœa in the latter constitute the debilitating or fatal complications. If scurvy attack a scrofulous patient we see that the cachexia rapidly becomes intense; and that puffiness of the tissues, lividity of the skin, glandular engorgement and enormous fungosities of the gums, are prominent symptoms. Senility also predisposes to rapid cachexia.

"It would be interesting to know whether in lunatics in whom there is decided cerebral predisposition, encephalic complications are frequent in the course of scurvy. In ordinary cases the patient retains perfect intelligence.

"The cases observed by Cejka, in the penitentiary at Prague support my view as to the influence of predispositions on the various manifestations of scurvy. This physician remarks that mechanical causes frequently acted in determining foci of blood-effusion; in woodcutters large ecchymoses appeared first in the right arm; and in woolcarders and washerwomen in both upper extremities, and in women generally at the place where the garters are fixed. In this way is explained the fact that the lower extremities are the principal seats of the extravasation. The upright posture at first facilitates the development of the lesions in the tarsal region and in the calf, and at a later period the sitting posture, which is taken when muscular fatigue and pain in the calves prevent further walking, occasions extensive ecchymoses of the posterior parts of the thighs. From the preceding remarks it has been seen that these are the seats of election of the initial eruption and of the blood-effusions.

"The initial acneiform eruption persists for a more or less lengthy period, according to its intensity and its confluence. Generally the ecchymotic tint becomes gradually paler, and the papules are observed to get smaller, whilst the skin over the whole affected part acquires an uniformly yellowish and afterwards a greenish tint. It is at this epoch, or a short time before, that large subcutaneous and intermuscular blood-effusions make their appearance. These give rise to large deep blue patches and sclerotic thickening of the integument. The whole or part of the limb is then swollen and becomes hard, doughy, very painful,

yielding to the impressions of the finger, so that a gap is formed, which, however, soon disappears. At this period the gums become soft, and so œdematous as often to form appendages as large as the extremity of the index finger. The teeth are then observed to shake in their alveoli, and stumps are carried along with the swollen gum, and displace within or without the dental line. They may be easily removed with the fingers. It is a singular fact that this extraction caused but very slight hæmorrhage, and one which joined to that of the rarity of nasal, intestinal and other hæmorrhages, seemed to indicate that there was very little tendency to bleeding in this epidemic.

"The cachectic condition, characterized by pallor and lividity of the skin, general puffiness, tendency to syncope, palpitations, dyspepsia, and extreme debility generally comes on at the period of the large blood-effusions. Still, in some cases, I have seen it come on at once, and when it has been preceded merely by almost insignificant and superficial cutaneous or buccal lesions. On the other hand, I have observed patients in whom the cachexiæ were but slightly marked, even when the gums were much affected, and there were enormous subcutaneous ecchymosis and sclerodermic induration, indicating deep-seated hæmorrhages.

"Many of the cases under my care were light, and, under appropriate treatment, attained convalescence without the appearance of any complications. The more severe cases were complicated by bronchitis, pleural effusions, obstinate diarrhœa and threatening syncope, against which therapeutics had very little effect.

"The mortality was small. Out of eighty odd cases four patients only died. In these four cases the termination was brought about by abundant pleural effusions of serosity mixed with a large proportion of blood,—about one-tenth,—or by marasmus due to constant diarrhœa.

"The young man who presented relapsing typhoid fever, and to whose case I have already alluded, was one of the patients carried off by effusion into the pleura. A few days before death I performed thoracentesis, and I was surprised and somewhat alarmed to see almost pure blood flow from the canula. More than one litre of this fluid was removed. At the autopsy it was found that the effusion had been partly reproduced, and that we had not been able to remove by puncturing all the effused fluid, in consequence of the presence of false hæmorrhagic membranes uniting the costal to the pulmonary pleura. In this patient I observed typhoid fever-lesions in course of repair. Dissection of parts of skin at which blood-effusions were present showed that there was an infiltration of fluid blood in the meshes of the subcutaneous and intermuscular cellular tissue.

"In another fatal case, which was one of a female who had been tuberculous for eighteen months, we found, in addition to tuberculous lesions of the pleura and lung, a large sanguinolent effusion into the pleural cavity. In this subject there were very numerous tubercular ulcerations in the intestines, and each of the ulcerations had become the seat of deep-coloured effusion of blood, which did not pass beyond the borders of the loss of substance. Finally, I observed a lesion which is, I think, one of some importance. I wish to speak of obliteration of a great number of veins, both of small and medium calibre, by black and diffluent clots, at those points where large blood-effusions centred, that

is to say, in the connective tissue joining the muscles, and constituting the sheath of the tendons. The question is, whether this vascular lesion is a special one, and one taking a part in the rupture of the capillaries from which the hæmorrhages proceed. This I have not yet been in a position to decide.

"I can add very little to our present treatment of scurvy. I can, however, bear witness to the relief afforded by baths containing black soap, some alkaline salt or sulphate of zinc, and by the application of cataplasms or compresses saturated with lead lotion to parts rendered painful by large effusions of blood. Finally, I can recommend the use of the potassio-tartrate of iron, believing, as I do, that Dr. Garrod's theory concerning the deficiency of salts of potash in the blood has some foundation.

"In short, the classical treatment consisting in delicate and varied alimentation, and in repeated baths, appears to me to be the best means for bringing about the cure of scurvy."

Art. 2.—*On the Influence of Alcoholism upon the Sight.**

By M. P. Galezowski.

(*Gazette Hebdomadaire*, No. 6, 1871.)

Though it is generally known that disordered vision is very common in individuals attacked by *delirium tremens*, surgeons are not well aware that a special form of amblyopia may occur with chronic alcoholism. This affection, however, according to the author, was of frequent occurrence in Paris during the siege, as he had seen more than fifty of these cases during this event; while previously, out of 3,000 patients under his care, in the course of one year, he had met with no more than nineteen instances of this affection.

This condition, he says, evidently depended upon the exceptional hygienic conditions in which the Parisians were placed during the siege. The working classes were badly nourished, and a great number of them replaced a part of their nourishment by alcohol, which they absorbed neat in large quantities, hence naturally resulted a more ready absorption of this poison and a slow intoxication.

It was especially in the poorer classes that this affection was met with; those who, on the contrary, were well fed, generally remained exempt. Intoxication is evidently produced more readily when the stomach does not contain food. M. Galezowski has seen but one case of alcoholic amblyopia in the female.

The following are the symptoms which characterize this affection:—

1. Vision is weakened rapidly, and it then remains without any further change of any consequence for some weeks or months.

2. The visual capacity is weakened to the extent that the patient can hardly distinguish any large characters.

3. Distant vision is sensibly diminished, so that it becomes impossible

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* Communicated to the Académie de Médecine.

for the patient to distinguish at a short distance the figure of another person.

4. In the evening the patient sees better, and the disorder of vision is less marked. The same occurs in the morning. Dr. Galezowski has observed several cases in which the patients were able to read very well in the morning before leaving their beds, but could not in the daytime walk about without difficulty.

5. At times there is diplopia or polyopia, or the objects seem to approach or to recede when the patient attempts to see them. According to Dr. Galezowski, these phenomena are to be explained only by spasms of the muscles of accommodation.

6. Disturbance of the chromatic faculty is not constant; sometimes red appears brown or black, and green becomes grey. Successive contrasts of well-marked colours are often observed.

7. The pupils are often uneven, much dilated, and but slightly moveable.

8. On ophthalmoscopic examination one generally fails to find any morbid change. In some individuals Dr. Galezowski was able to make out serous infiltration of the retina, and apparent contraction in the arteries.

9. This affection is usually rebellious to treatment; it continues for a long time, and yields only after a complete discontinuance of the use of alcohol.

10. Undoubted relief is obtained from the use, in large doses, of bromide of potassium, an agent recommended by Prof. Gubler for the treatment of general alcoholism.

11. Experience has demonstrated to Dr. Galezowski that the application of a solution of Calabar-bean produces immediate relief. He considers this as one of the most important agents in the treatment of the alcoholic amblyopia.

12. This affection is not a serious one if it be carefully attended to at its commencement; it ought not, however, to be allowed to pass into a chronic condition.

In speaking of the influence of alcoholism upon the eye it is necessary to mention the disastrous effects of operations upon the organ when the patient is in this condition. Dr. Galezowski has seen simple excision of the iris followed by iritis or irido-choroiditis. Sometimes the normal wound remains for two or three weeks without cicatrizing. Much more severe accidents may follow an operation for the extraction of cataract, as, for instance, suppurative iritis and sphacelus of the cornea.

Art. 3.—*On Vaccination and Small-pox.*

By E. C. Seaton, M.D., and Robert Grieve, M.D.

(*British Medical Journal*, March 18.)

At a meeting of the Epidemiological Society, on March 8th, the President, Dr. E. C. Seaton, offered some remarks on the present epidemic of small-pox. This epidemic was the most intense that had occurred in his time; but why it should be more intense than others he

did not know. Its ravages were not confined to the metropolis; but it prevailed in Liverpool, in France, in Spain, in Belgium, and especially in Holland, manifesting everywhere the same features. In the report of the Small-pox Hospital for 1870, published before the epidemic had reached its present height, he found Mr. Marson and Dr. Munk calling attention to the intensity of the epidemic, and attributing the high death-rate to the unusual severity of the disease, and to the larger number of children in the hospital than usual. How far, in these circumstances of unusual intensity, had vaccination held its ground as a protective? He believed that the faith of the profession generally was, that good vaccination served as a preventive in the vast majority of cases. But vaccination must be universal; it must be performed at an early age, and must be well performed. He had had occasion, at the opening of the session, to remark on the unpreparedness of London for an epidemic. In his experience it had always been so; as, for instance, in 1859 and 1860, and in 1863, multitudes of children as old as four and five were brought up to be vaccinated. The same was the case at the present time. He also noticed the injury done by a certain body against the cause of vaccination. In analysing the returns of deaths, he did not find the mortality under five years of age greater than in 1863; it was almost identically the same. Of adults vaccinated, he did not think that the proportion was large, but the cases attacked were singled out. Of the fatal cases, a very large proportion were unvaccinated, but there were also some deaths among the vaccinated; the question was, how many? A few years ago, when he went about examining the arms of children, he was struck with the very imperfect way in which vaccination had been done. People were now paying very dearly, he thought, for the slipshod way in which vaccination had been performed. There was something more than carelessness. Operators seemed to have aimed at a sort of vaccination-made-easy. He was glad to say that, in the large towns, a more satisfactory state of things existed. He sincerely hoped that the consequence would be that in future years the beneficial result would be seen. One thing that was indispensable now was the revaccination of adults, especially as much of the earlier vaccination had been so imperfect, and because it was probable that, in a certain portion, susceptibility to small-pox recurred after a certain age. As it was difficult to know whether a person had become thus susceptible, it became incumbent for all to be revaccinated. Dr. Seaton concluded by deprecating the putting off of revaccination until times of panic.

Dr. Grieve gave a brief analysis of 800 cases at the Small-pox Hospital at Hampstead under his charge, reckoning from December 1st, 1870, to February 18th, 1871. In the greater number of fatal cases, death occurred within a week. At first the accommodation in various parts was not sufficient, and this increased the mortality; yet it could not be denied that the epidemic was one of extreme virulence. A large proportion of deaths was brought about by hæmorrhagic attacks. This happened in persons over the age of puberty. His experience was that more succumbed who would have fallen victims to other zymotic diseases. Out of the 800 cases in question, he found that 591 had been vaccinated, 209 not. Without going into details, he might mention

that some of those reckoned as vaccinated had been vaccinated very imperfectly. The results tended to weaken the idea that tendency to small-pox decreased with age. The number of unvaccinated persons showed a regular diminution in advancing ages. He believed that few unvaccinated persons reached above forty, without being attacked by small-pox. As to the efficacy of vaccination, his firm conviction was that it lessened the mortality, and that, where it did not absolutely ward off small-pox, it lessened its virulence, rendering the attack milder and more manageable. The outward manifestations were never so severe in the vaccinated as in the unvaccinated. Dr. Grieve said that out of the 591 vaccinated, 9·8 per cent., and of the 209 unvaccinated, 45 per cent. had died. As to the severity of the disease, reckoned by its duration, he found the average for the vaccinated to be twenty-four days, and for the unvaccinated thirty-five days. The experience of these 800 cases taught him different results from what had been laid down by the Registrar-General. He (Dr. Grieve) found that, of the vaccinated, the rate of mortality under ten years of age was 9·8 per cent.; from ten to twenty years of age, 2·8; from twenty to forty, 12·6; over forty, 22 per cent. Of those under ten years of age, there was no doubt that complications carried off a large number. Making this allowance, the figures showed that the rate of mortality increased in a marked degree after twenty, and that consequently revaccination ought to be performed at about that age. The efficacy of revaccination was proved conclusively from the fact that it had given perfect immunity to the officers at the Small-Pox Hospital and the Hampstead Hospital. As to the class of persons attacked by disease, he might mention that they were those whose avocations brought them most into contact with all sorts of persons. This showed the necessity of isolation, in order to prevent the spread of disease. But he hoped to be able to develope this point when the epidemic was over and he had more leisure. Comparing the mortality of the vaccinated with that of the unvaccinated at various ages, he found that of the 800 in question there were—

Under 10 years,	51	vaccinated cases;	of these.....	5 died.
„ „	103	unvaccinated „	„	54 „
From 10 to 20,	211	vaccinated „	„	6 „
„ „	46	unvaccinated „	„	13 „
„ 20 to 40,	389	vaccinated „	„	38 „
„ „	56	unvaccinated „	„	26 „
Over 40,	40	vaccinated „	„	9 „
„	4	unvaccinated „	„	3 „
Total,	591	vaccinated „	„	58 „
„	209	unvaccinated „	„	96 „

Among those entered as vaccinated, were some on whom it was evident that the vaccination had been very improperly performed. These he hoped to be able ultimately to classify. Dr. Grieve added that the present number of admissions did not betoken any diminution in the epidemic.

Art. 4.—*On Small-pox and its Prevention, with a Record of Experiments upon the Lower Animals.**

By Edwards Crisp, M.D.

(*Medical Press and Circular*, March 15.)

The subjoined are some of the conclusions arrived at by the author. That no deleterious effect is produced on the human constitution by the introduction of cow-pock matter, and that this inference is greatly strengthened by the fact that since the introduction of vaccination the population of the United Kingdom has nearly doubled. That Government hospitals should be established in the metropolis in suitable localities, and provided with proper vehicles for the conveyance of patients, and for proper heat-chambers for disinfection. That, looking to the important fact that in ten years 1851 to 1860, 42,071 deaths occurred in England and Wales from small-pox, and that 37,007 of these deaths were in young children under fifteen years of age, the recommendation given by the Privy Council, and by the London College of Physicians, should not be followed but where there is danger of infection; children of all ages should be re-vaccinated. That there is no sufficient reason why lymph during the time of an epidemic, when it is often difficult to procure, should not be taken from adult persons, provided they are free from disease, and the vesicle presents a normal appearance. That more extended observations are needed before we can come to the conclusion that the amount of exemption from small-pox depends upon the number of marks upon the arm from previous vaccination. That before this and other contagious diseases are likely to be greatly arrested, a Central Board of Health should be established to regulate all matters relating to the health of the people; and that, irrespective of medical officers of health that should exist in all large cities and towns, an inspector for each county should be appointed, whose duty it should be to collect and arrange all important information from the medical officers of health, and from the Poor-law medical officers, and report weekly to the central authority respecting the prevailing diseases and other sanitary matters.

Art. 5.—*On Small-pox Encampments.*

By Surgeon-Major T. Atcheson, of Her Majesty's Royal Bengal Army.

In a series of interesting letters to the *Times*, recently reprinted in the form of a pamphlet, Mr. Atcheson observes that amongst the many suggestions for checking this swiftly-spreading epidemic, the beneficial action of encampment appears to have been lost sight of.

Instead of the *costly*, injurious, and *tardy* system of congregating the sick in hospitals, asylums, or improvised lazarettos, in a hitherto un-

* Abstract of a Paper read at a Meeting of the Medical Society of London, February 27.

infected neighbourhood, he suggests the simple remedy resorted to in India—viz., to pitch tents in some high and airy situation, quarantine the encampment, and on the subsidence of the disease, to disinfect or burn the camp.

At the dreadful epidemic of cholera at Meean-Meer in 1861, and again at Umritzir in 1863, when also small-pox was raging, and at both of which Mr. Atcheson was deputed on special duty, the moment infection appeared it was attacked *at once* by segregation and camping out. Here the three great principles of Hygiene were enforced—viz., fresh air, non-contact, and speedy action. The consequence was that the disease was arrested *forthwith*, and quickly disappeared.

By the term "tents," in this climate, Mr. Atcheson means every appliance for the encampment of the sick—viz., tents, thatched huts, *wooden sheds*, and any other moveable apparatus suitable for the emergency.

The cost of such an encampment, it is stated, would be about one-fourth of the amount we are now expending on temporary hospitals.

Art. 6.—*On a Series of Cases in which Chancres have been caused by Vaccination.**

By Jonathan Hutchinson, F.R.C.S.

(*British Medical Journal*, April 29 and May 13.)

The cases to which Mr. Hutchinson referred had recently occurred to a practitioner in the neighbourhood of London, whose name, for obvious reasons, it was desirable not to make known, but who had expressed a desire that the unfortunate event which had taken place should be made known to the profession without delay. In February of this year, the gentleman referred to vaccinated thirteen adults from the arm of an infant four months old. The child at the time was apparently quite healthy. The vaccinated persons did not present themselves for inspection; but, so far as could be ascertained, the vesicles ran the usual course, and the scabs had fallen off at the end of three weeks. About a fortnight afterwards—that is to say, five weeks after the vaccination, sores appeared in the vaccinated parts in most of the persons. The circumstances came under the notice of Dr. Seaton, the Inspector of Vaccination; and he requested Mr. Hutchinson to investigate them, which was accordingly done during the present month. As to the infant vaccinifer, when Mr. Hutchinson first saw it, it appeared to be healthy; but, on a close examination, he found four or five condylomata about the anus. No indications of syphilis were present in the mother. The father, a Parisian National Guard, Mr. Hutchinson had been unable to see; the woman would not give his address, and he believed that the man was unwilling to submit to an examination. There could be no doubt that the child itself had not been rendered syphilitic by vaccina-

* Abstract of a Paper read at a Meeting of the Royal Medical and Chirurgical Society, April 25.

tion; its cicatrices were quite healthy, whereas, if syphilis had been introduced into it at the time of vaccination, they would have presented some of the appearances met with in the persons vaccinated from it. Subsequently to the time when the child was first seen by Mr. Hutchinson, it had fallen into a state of marasmus, with commencing hydrocephalus. Mr. Hutchinson believed that the poison was conveyed by means of blood. Of the thirteen persons vaccinated, two, to whom the lymph taken from the child was first applied, had no syphilitic symptoms. The remaining eleven, when examined about two months after the vaccination, presented indurated sores on the sites of some of—not all—the cicatrices; this partial immunity Mr. Hutchinson regarded as evidence that the syphilitic virus was contained in the effused blood, and not in the proper vaccine lymph—the difference arising from the accidental separate transmission of the two fluids. He had treated all the patients with mercury internally and the application of black wash; the induration in all had now disappeared, and the sores in most were now healed. None of them had presented any of the permanent syphilitic disorders of the skin, nor had their tonsils been affected; some of them had had transient roseola, and a few some lichenous spots. Perhaps, in course of time, further evidence of syphilitic infection might appear. Mr. Hutchinson believed that the cases showed that it was possible to vaccinate from a syphilitic subject without transmitting the disease, provided that the blood of the vaccinifer were not mixed with the lymph. The transmission of syphilis by vaccination was an extremely rare event in this country; so rare, that its occurrence could form no argument against the practice of vaccination.

Dr. Bakewell thought that the mixture of blood with the vaccine lymph was not the only way in which disease might be communicated by vaccination. The epidermic scales which were removed in the operation on the point of the lancet might introduce syphilis. Infection might also take place in the reverse direction to that under consideration; if the person about to be vaccinated were already syphilitic, the lancet used in making the punctures or scratches on his arm might, when applied to the vaccine vesicle, introduce the syphilitic virus; so that the vaccinifer might be, though healthy, made the medium of communicating the disease.

Mr. Henry Lee said that the idea of the conveyance of syphilis by the epithelial scales was novel, but well deserving of attention. He had no doubt that the epidermis used in the process of skin-grafting might convey disease. He congratulated Mr. Hutchinson on the courage which he had shown in bringing forward his cases. There was in this country a great difference of opinion as to whether vaccination caused disease. Most professed to disbelieve the transmission of syphilis by vaccine matter; and the official reports countenanced this idea. Many medical men, however, and a large proportion of the public, believe that "impure blood" was sometimes communicated by vaccination. This objection to vaccination could only be met by stating openly the circumstances in which the transmission of disease might take place; and if this were done, the medical man in whose practice such transmission might seem to occur, would be protected from much obloquy. Mr. Hutchinson had said that, if vaccine lymph only were taken from the arm of a syphilitic

child, cow-pox alone would be communicated to the vaccinated person. He (Mr. Lee) would go further, and say that, if a child after being vaccinated contracted small-pox, and care were taken in vaccinating from it to use the lymph of the vaccine vesicle only, cow-pox and not small-pox would be communicated. It was well known that vaccination would develope diseases already existing in a latent form in the body, such as syphilis; and if this were generally known, many medical men would be exonerated from the charge of having conveyed disease to the persons vaccinated by them. He had seen only three cases where syphilis was supposed to have been communicated by vaccination. With regard to the local symptoms of vaccino-syphilis, he thought that the matter was sometimes exuded on the surface instead of being deposited in such a way as to constitute induration. The induration of the glands was a point of great interest; it was unusual for it to occur in the axillary glands. In Mr. Hutchinson's cases, the enlargement of the axillary glands might be accounted for by the vaccination having been done at different points of the arm. Generally, where the vaccination was done at the insertion of the deltoid muscle, the glands under the clavicle became enlarged.

Mr. de Méric congratulated Mr. Hutchinson on the boldness with which he brought forward his cases. It was well known that in this country the idea of the communicability of syphilis by vaccination was generally treated with contempt; he had been often told that the occurrence could not take place. The paper which had been read, however, would change the opinions of many incredulous persons. He thought that it would have been better if the communication had been delayed six weeks or two months, so as to give time to see whether any symptoms of constitutional syphilis appeared in the persons whose cases were described. A vaccine vesicle, without any apparent cause, might show all kinds of changes; he did not, however, question the fact of the conveyance of syphilis in the instance described, but thought that it would have been better to wait for secondary symptoms. He did not agree with the statement that, if pure lymph only were taken from the arm of a syphilitic child, syphilis would not be conveyed. It must be remembered that the vaccine lymph itself was formed from the blood; and therefore it might be the means of conveying disease, though in many instances it did not do this. Systematic incredulity as to the transmission of syphilis by vaccination ought to be avoided; at the same time, the vaccine vesicle sometimes assumed an alarming appearance, which could not be attributed to the transmission of disease. He had seen cases where the vaccinated parts, without any obvious cause, assumed an appearance very like mucous tubercles. We ought, therefore, to be very careful in inferring that, in a person whose arm after vaccination presented such appearances, they were really due to syphilis. That syphilis could be communicated by vaccination, had been proved on the Continent. In one instance, in Brittany, thirty or forty children had contracted syphilis in consequence of being vaccinated from a syphilitic child. The occurrence had been investigated by a Commission of the Academy of Medicine in Paris, who had ascertained beyond doubt that the transmission took place as described.

Mr. R. B. Carter thought that syphilis might be communicated with-

out the obvious introduction of blood. It was a common practice in taking lymph from children's arms to wait for some minutes until the vesicles became refilled; the matter then consisted of exudation, which might be capable of transmitting disease. When tubes were charged, they were sometimes partly filled, and contained clear vaccine lymph; in other instances, they contained a greater quantity, and their contents were turbid. In one instance in which he had applied to the National Vaccine Establishment for lymph, he had found the fluid in the tubes inert; and, on examination, had been led to the conclusion that it was saliva. The value of vaccination would be increased by looking its dangers fairly in the face, and not joining in the cry that we have never seen them.

Dr. Drysdale had vaccinated a child suffering from syphilis, and at the same time warned the parents against having other children vaccinated from it. He learned, however, that at one of the large hospitals the child was afterwards used for the purpose of vaccinating others.

Mr. Simon protested against Mr. Carter's remarks on the character of the lymph supplied from the Vaccine Institution. He concurred with previous speakers in thanking Mr. Hutchinson for his paper. Mr. de Méric's criticism was no doubt correct; in a hypercritical sense, it was true, the paper considered historically could not be regarded as quite conclusive, inasmuch as there was no record of secondary symptoms. Still, Mr. Hutchinson's care and accuracy were so well known that his diagnosis might be provisionally accepted as correct. He had heard comments on the general incredulity as to the transmission of syphilis by vaccination. No doubt there was a great deal of hesitation in believing this occurrence to be possible. In 1857, he had addressed a circular letter on this question to all the leading public practitioners; and, almost without exception, the answers were, that they had not seen anything which supported the idea that vaccination propagated syphilis. Among the exceptions was Mr. Hutchinson, who said that he had seen cases where he believed that syphilis had been conveyed by vaccination. Some years afterwards, in the course of inquiry, he had asked Dr. Balfour, of the Army Medical Department, whether instances of the communication of syphilis by vaccination had come under his notice among soldiers. The answer was, no. He had also again referred to Mr. Hutchinson on the subject, who said that, if he had again before him the cases which he at first believed to indicate transmission, he might now arrive at a different opinion. He was glad that the name of the practitioner under whose care the cases occurred was not made known. From all that he had heard of him, he believed him to be a man who did not deserve such a misfortune as had occurred, and one who deserved sympathy. Still, a vaccinator ought to satisfy himself that the child from whom he took the vaccine matter was healthy. Was this done in the present instance? Were the condylomata present when the child was used for vaccinating? It was quite certain that blood became mixed with the lymph; and the blood of syphilitic persons conveyed syphilis. A person, then, who in vaccination conveyed the blood of one person to another, ought to be able to warrant the freedom of the transmitted blood from syphilis. The admixture of blood was not necessary to the performance of the operation of vaccination; and this

being the case, and blood being capable of transmitting syphilis, it should be considered bad practice to take blood in vaccinating. There was also another question. The syphilitic material, in all probability, existed in particles contained in the blood. The corpuscles of the blood, it was now well known, passed out of the vessels; and they might thus become important agents in the conveyance of such particles. If this were the case, inflammatory effusions would be a source of danger; and the vaccinator should be very chary of drawing lymph from a vesicle after the formation of an areola. The formation of the areola indicated a process accompanied by a migration of white corpuscles; and if these conveyed particles of syphilitic contagion, then these particles would be contained in the fluid which was used. In England, the instances in which there had been even an imputation of the transmission of syphilis by vaccination were too rare to be analysed; but several undoubted instances had occurred in Italy, France, and Germany. This difference, Mr. Simon believed, was to be explained by the fact that in England the lymph was taken on the eighth day, when the areola was scarcely formed; while on the Continent vesicles ten days old were often used for the supply. In the Rivalta case, and in one which occurred in Naples, the lymph was taken on the tenth day. At this period the lymph had become mixed with migrated white corpuscles and other products of inflammation. He would suggest that the Society should express an opinion as to what was good or bad practice in vaccination. It might greatly help the Government by showing what were the real dangers arising from vaccination, and how they might be avoided. It would be advantageous to refer the paper to a Committee, who should report on it and show how the evil might be avoided in future. Vaccination afforded the safeguard against what must be regarded as the most terrible pestilence of our times; but there was among the public an exaggerated idea that it caused all kinds of evils; and what if the general confidence in vaccination should be seriously shaken? There was a compulsory vaccination law; but if every parent were to think that syphilis was likely to be given to his child when vaccinated, such an idea would, if anything could, justify a rebellion against the law. The profession must examine into all the sources of danger, and relieve the public from apprehensions which would be justified as long as the matter remained unsettled.

The discussion was resumed on May 9th by the reading of a supplementary report, presented by Mr. Hutchinson. In all the cases but one, a course of mercury was commenced nine weeks after the appearance of the symptoms described; in the exceptional case, the treatment was commenced two weeks later. In the twelfth week, all were under mercurial influence, and the sores were healing. When he saw the patients on Friday last, the sores had mostly healed; the enlargement of the axillary glands had subsided, and none of them had sore-throat. Some had evanescent rashes, and in one or two there was a lichenous rash; but not anything that could be called a syphilitic eruption. One patient had taken the medicine rather irregularly, and the chancre still remained open. In addition to these cases, some very interesting facts had been brought under his notice since the last meeting. One was a case of auto-inoculable rash in two children after vaccination, related to him by

Surgeon-Major Lamprey of the 67th Regiment, who had also sent drawings of the appearances presented. One of the children had acted as vaccinifer to the other, and both presented on the arm an eruption of porrigo. This was probably an example of what was occasionally seen; and he believed that very little could be inferred as to the specificity of the eruption. In a second case, occurring in a patient who had come under the care of Dr. Hilton Fagge, there were, nine months after vaccination, three ulcers on the vaccinated spots, as well as sores on other parts of the body. The ulcers were irregular and undermined, and had swollen edges with a livid tint. Mr. Hutchinson did not think that this condition was of syphilitic origin—at any rate, it was not an instance of vaccino-syphilis. The other children of the same parents were all free from traces of syphilis; two, when examined, had ulcers due to scratches or falls. Probably there was some peculiarity in the constitution allied to struma. A third case, two weeks after vaccination, presented a scaly erythematous eruption, evidently syphilitic. The vaccination was unsuccessful; the eruption appeared two weeks afterwards, and was evidently not due to the introduction of syphilitic virus in the operation. On examination, the patient, a woman, was found to have a large suppurating ulcer, very like a chancre, on the os uteri.—Another group of cases, where syphilis appeared to have been transmitted by vaccination, had been brought under his notice by Mr. Waren Tay. Two children, aged fourteen months and four years, came under Mr. Tay's care on Friday last. In both, the vaccination scars were unhealed twelve weeks after the operation. In the elder child, one of the sores, and in the younger three, were indurated. They had enlarged axillary glands, and a papular rash (less marked in the younger) on the bend of the elbow, thighs and hip. The children were said to have been free from eruption till two weeks after vaccination. There was no reason for believing that a hereditary taint was present. The vaccinifer and twenty-four other children vaccinated from it had been traced out. The vaccinator had informed Mr. Hutchinson that he was generally careful to avoid using blood-stained lymph; but on this occasion, as he had a great press of duty, he could not say positively that he had been able to exercise his ordinary care. The vaccinifer was seven months old. The mother said that he was selected as being healthy; and that his vaccination sores healed well. The child appeared healthy, and had no eruption; but its head was large and the fontanelle very open. On inquiry, Mr. Hutchinson was informed that it had snuffles; and he found at the anus a single small condyloma. The mother was healthy; the father denied having had syphilis, but probably from a feeling of alarm. The evidence was apparently slight; but the snuffles, the condyloma, and the hydrocephalus, pointed strongly to syphilis. Some of the other persons vaccinated from the child had been examined. In one, a girl, aged eleven, the vaccination sores remained open for three months, and two of them were suspiciously hard; there were also some spots about the elbow, but no sore throat. In two other children, the vaccination-spots were said to have healed slowly, and a rash was reported to have followed the operation. Two others were said to have done well.

Mr. Henry Lee called attention to a case which had come under his notice in a child, in whose arms ulcers remained open several weeks after

vaccination. The parents were apparently quite free from syphilis; the father, who died of phthisis a few months ago, had had gonorrhœa. The child (which was brought to the Society for examination) was much emaciated, and had a coppery eruption on the nates, sores on the mouth, and enlarged axillary glands on the side where the vaccination had been performed. Mr. Lee could not give a decided opinion as to the case; but he thought it to be one of vaccino-syphilis. Only three other cases of apparent vaccino-syphilis had come under his notice. In the first case, which he saw in 1863, there were no secondary symptoms as far as he could ascertain. In the second, there was a circumscribed indurated sore, very like indurated chancre; no specific treatment was adopted, and the induration disappeared. It was then doubtful whether this case was syphilitic. The third case was that related early in the year by Mr. Thomas Smith at a meeting of the Clinical Society. . In this case, the axillary glands were not enlarged. In the Rivalta cases there was enlargement of the glands in only fourteen of the forty-two patients; and the enlargement might have been due to other causes than syphilis. He thought that the gentleman who had had courage to allow his cases to be brought before the Society had done much to render vaccination safe, and that he deserved respect. No vaccinator ought to be suspected of introducing syphilis unless a chancre were produced at the point where the vaccination was performed. He hoped that some rule might be laid down for the guidance of the profession in avoiding vaccination from diseased subjects. Till this was done, it would be as unjust to accuse any one of malpractice as it would be to blame the captain of a ship for allowing his vessel to run on a hidden rock not marked down in the charts. Two great rules were to be derived from Mr. Hutchinson's paper. First, pure lymph alone should be taken, and the base of the vesicle should not be interfered with. He had in his hand a letter relating a case in which pure vaccine lymph taken from a person suffering from small-pox had communicated cow-pox alone. Secondly, lymph should be taken from healthy children only; it was not always easy to say, however, whether the child was really healthy.

Mr. Cooper Forster agreed with those who considered that the presence of secondary symptoms was essential in order to prove the presence of syphilis; the sores and enlarged axillary glands were not enough. In Mr. Hutchinson's cases, however, there were as unmistakable syphilitic sores on the arms as any that he had ever seen on the penis; and the glands were enlarged and hard. In these cases, however, there had not yet been sufficient time for the development of well-marked secondary symptoms; and in such cases secondary symptoms would probably be to a great extent of mild character.

Dr. Anstie had arrived at the conclusion that there was no sore whatever the appearance of which justified the absolute declaration that it was syphilitic. A sore might be indurated without being of syphilitic origin. If secondary symptoms appeared, this was another matter.

Dr. Althaus did not see any reason for believing that there might not be a large crop of secondary symptoms in some of Mr. Hutchinson's cases. Twenty years ago, Dr. Waller of Prague had proved, in opposition to the view then entertained by Ricord, that secondary syphilis could be communicated. The experiments were made on idiots; and in

all of them secondary symptoms appeared just as if they had had primary chancre.

Mr. Berkeley Hill hoped that some of the opponents of the doctrine of the transmissibility of syphilis by vaccination would be placed on the Committee. The evidence as to the communication of syphilis in this way was feeble. He agreed with Dr. Anstie that indurated sores were not always syphilitic. It would be interesting to know the state of the instrument which was used in the vaccination. It might be—though this was a mere speculation—that one of the adults being vaccinated was syphilitic, and that he infected the others.

Mr. Maunder believed that it was possible to predict the occurrence of secondary symptoms from the appearance of sores that had not been tampered with in any way. He asked what was the character of the induration in Mr. Hutchinson's cases. There were two varieties of induration—viz., the true Hunterian, and that described by Ricord as *parcheminée*, where a thin layer of induration lay at the base of the sore.

Mr. Barwell thought the discussion was wandering away from the main question—Is syphilis liable to be conveyed by vaccination? This question must be considered not merely professionally, but as it would be regarded by the public, who would consider the infection with syphilis by vaccination as a great misfortune. Lymph, when pure, was probably innocuous; but the difficulty was, how to be certain that it was pure. Even apparently clear lymph might contain an exudation-corpuscle, which might be introduced into the arm of a person in vaccination. It was not always possible to ascertain that a child was not syphilitic; for sometimes in such a child there might be for a time no apparent manifestation of the disease. This occurred in the children of syphilitic mothers who were undergoing a course of iodide of potassium. Perhaps some mechanical means might be devised for preventing even the smallest particles from being taken up with the lymph.

Mr. Simon said that he wished to put his suggestion regarding a committee in a tangible form. The Society could deal with the subject with more advantage than any of the Colleges, as it consisted of men who followed all departments of practice. He moved that the Committee should report on the best precautions to prevent the transmission of disease by vaccination.

The President suggested to Mr. Simon that he should leave the appointment of the Committee in the hands of the Council, with whom, according to the laws of the society, the matter rested.

Mr. Simon thereon withdrew his motion.

Dr. Edward Ballard thought that the paper might be considered both scientifically, and in its practical bearings as it concerned the public. The paper confirmed the observations made on the Continent, and reflected credibility on them. Various opinions had been expressed to account for the occurrence of the foreign cases of vaccino-syphilis. It had been said that they were attributable to dirty habits; to a slovenly mode of performing vaccination; to the use of old tubes, &c. Now, however, those who doubted the possibility of the transmission of syphilis by vaccination must be satisfied by the cases related by Mr. Thomas Smith and Mr. Hutchinson, and must begin to think that

there was something in the idea that syphilis could be communicated by vaccination. Mr. Hutchinson had stated the probability that the virus was conveyed by means of its blood. This was the doctrine of the Lyons school. But it was not stated by Mr. Hutchinson at what period in the course of vaccinating the series of persons referred to, blood had begun to be mixed with the lymph. [Mr. Hutchinson said that it was not known.] Again, the state of the vesicle at the time of taking the lymph from the vaccinifer was not stated. This was important; for on the eighth day there was sometimes a distinct areola, sometimes little or none. In the latter case the lymph would be clear; in the former, it would be almost certain to be turbid. In looking over the history of cases of vaccino-syphilis, he had noticed the capriciousness which attended the conveyance of syphilis, even where blood had been mixed with the lymph. In this country, where a very large number of persons were vaccinated, it might be supposed that, in a large proportion of cases, blood must be mixed with the lymph used; yet Mr. T. Smith's case was the first of the conveyance of syphilis by vaccination that had come to his knowledge. It was indeed curious that Mr. Hutchinson's cases should follow so rapidly. But it was well known that examples of some unusual occurrence sometimes came together; for instance, rare forms of aneurism sometimes occurred nearly at the same time in hospital practice. With reference to Pellizari's experiments, it must be noted that blood taken from an adult was used, and that of the three experiments performed only one—that on Dr. Bargioni—succeeded. In this case alone the blood was warm; and the quantity used on the experiments was large. How was it, then, that, while there was so much difficulty in producing syphilis by means of a large quantity of blood, it should be produced by a very minute quantity? Possibly the irritated condition of the vaccine vesicle might impart an unusual contagiosity to the blood. Another reason might be that the blood of a syphilitic infant had a greater contagious power than that of a person having secondary syphilis after a primary chancre. M. Diday and Mr. Lee agreed that the contagiosity of secretions was greater in infants than in adults.

Mr. Startin said that, in a practice of thirty years, he had probably seen thirty cases of vaccino-syphilis, as well as many cases after vaccination of porrigo with enlarged glands, and contagious pustular eruption. He had not, however, traced out the history of the syphilitic cases so closely as Mr. Hutchinson had done with respect to his cases.

Mr. Hutchinson said that it would be a great satisfaction if the cases which he had brought forward should prove not to be syphilitic; but he had no doubt on the matter. The evidence was cumulative. The eleven persons all presented similar sores resembling chancre in appearance; in nearly all the axillary glands were enlarged; in all, the disease yielded to mercury. He would bring before the society such future evidence regarding the cases as might be afforded him, and would do all that he could to aid the Committee; but it must be remembered that an investigation of this kind could not be carried out like those on most other subjects. The suggestion of hereditary

taint in the two children was important; but it was not easy to admit it, as the disease appeared simultaneously soon after vaccination in two children of different ages, who had both up to that time appeared healthy. He believed that there was nothing in the appearance of the vaccinifer that would lead at the time of vaccination to the suspicion of syphilis. He could not say at what period in the first series of cases blood became mixed with the lymph; and in the second series he had not been able to ascertain whether any such admixture took place.

Art. 7.—*On the Action of Light in Small-pox.*

By J. H. Waters, M.B., M.C., &c.

(*The Lancet*, February 4.)

It has long been known that chemical changes can be effected by light, both of combination and of decomposition, especially the latter, and that substances in great numbers are found more or less susceptible to its influence. Many instances might be given of this. Chlorine and hydrogen at ordinary temperatures will not combine except when acted upon by light. In organic chemistry examples in plenty abound, as the salts of silver, &c. It is generally the luminous parts of a ray of light that effect this. In them lie the chief chemical action, and this exists even when the light is feeble, although no doubt for every kind of ray a substance might be found which, if circumstances were favourable, would be acted upon by it. This power has received the name of actinism, and is distinguishable from the heat-giving rays by being refrangible to the highest degree.

Animal and vegetable nature are peculiarly susceptible to the influence of light, their colour being in a great measure dependent upon its action. If a plant is allowed to grow for any length of time in the dark the leaves and stalks are destitute of colour, and it bears no seed. An animal living in the dark loses its colour. Man especially is most sensitive to light, his skin becoming of a peculiar waxy hue when he is deprived of it; and when constantly exposed to its effects his face and hands get deeply coloured. This is in persons with their ordinary health.

The sensibility of the skin varies greatly in different parts of the body. Weber, to prove this, applied the points of a pair of compasses to it. In some places the two points can be felt when only a few lines apart; in others they must be separated to a considerable extent to be distinguished; and it is those parts exposed constantly to the action of light that are most sensitive. This would show some connexion between nerve-development and light, which as yet is not understood. Disease modifies this sensibility considerably by its action. The skin may be rendered more highly sensitive, or less so; or sensation may be altered and perverted. This, although well known to be due to some change in the nervous system, is far from being understood.

Those diseases that attack the skin, or rather that are eliminated by it, and which increase its susceptibility to light, are more dangerous

when exposed to its influence. Small-pox, in particular, is more severe when light is allowed thoroughly to pervade the patient's sick room. John of Gaddesden first noticed this, and proposed its exclusion from those chambers where patients suffering from this disease lay; since his time many physicians have acted upon his idea, with more or less success as they have efficiently carried it out. If white light is entirely excluded from the patient, there is no doubt the disease is less severe; by white light Dr. Waters means daylight. The room being so darkened that not even a single ray can enter it, and a candle being used instead, the effect is to arrest the disease at the papular or vesicular stage; it never becomes purulent, and the skin between the vesicles is never inflamed or swollen; the liquor sanguinis is prevented from becoming pus; we never see the large scabs of matter covering the face; there is no intense pain; even the itching is trifling; and the smell, so annoying to all concerned, is, if not altogether removed, so diminished as to be easily borne. The earlier in the disease the room is darkened, the more certain will the effects named follow; but if during the stages of primary fever or eruption the white rays of light are admitted only for a short time, it is sufficient to cause great mischief, and to nullify to an immense extent all that has been before done.

Another advantage derived from this mode of treatment is that we are able to administer medicines which it would be impossible to use without it—those that act upon the skin and assist it to eliminate its poisons; the inflammatory action being less severe, we run no danger by stimulating its excretory powers in moderation.

The treatment Dr. Waters follows, in addition to the darkening of the room and quiet in bed, is to give the patient a farinaceous diet, with beef-tea and fish, ripe fruits and milk, lemonade, soda-water, barley-water, and demulcent drinks. The room to be well ventilated; this can be effected by the window remaining open under the covering that excludes the light. Tepid sponging, with frequent changes of linen. Purgatives should be given very cautiously; none but the mildest are admissible, and it is better to regulate the bowels with fruits than to use any at all; if a laxative is necessary, mild enemata are the best. From the commencement of the fever to the acumination of the pock, arsenic (Fowler's solution) with iodine in small doses, the iodide of potassium, and solution of the acetate of ammonia, in a mixture, a dose every four to six hours, is in most cases well borne and does good; after this, arsenic (the solution of the arsenite of soda) with the syrup of the phosphate of iron will act better, and be a restorative tonic. Stimulants may be given if necessary; and, if sleeplessness is complained of, chloral hydrate, with or without opium or henbane, is best.

Dr. Waters finds, by reference to his notes, of a great number of cases which have been under this treatment, that when the patient has been seen early—that is, before the appearance of the eruption—the general history is as follows:—

First, second, and third days.—Patient is suffering from fever, and from the well-known symptoms of small-pox. Has been complaining some days. The room to be darkened; tepid sponging, &c., with the first arsenical mixture to be given; quiet in bed enjoined; milk diet, &c.

Fourth day.—Eruption is beginning to show itself; less fever, &c.,

but itching of the skin has commeneed. No powder to be used, as this the author finds does more harm than good; it fills up the pores of the skin, preventing perspiration, either insensible or otherwise. Cold cream, the lime liniment, or sponging to be used instead. The same mixture, &c., to be repeated.

Fifth day.—The eruption well out, with slightly inflamed base; less fever. The same treatment continued.

Sixth, seventh, and eighth days of the disease (third, fourth, and fifth of the eruption).—The eruption progresses in the ordinary manner, but the fever has nearly subsided, except in the more severe forms of the disease. Appetite returning. Same treatment continued.

Eighth, ninth, and tenth days of the disease (sixth, seventh, and eighth of the eruption).—The vesicles, instead of being converted into pustules, get less and less, their contents being absorbed, or they dry up into a brown scab, which comes away in the ordinary manner. There is no secondary fever. The patient feels quite well, eats well, and is in fact free from the disease.

Art. 8.—*On the Diffusion of Scarlet Fever, and its Arrest.*

By John W. Ogle, M.D., Physician to St. George's Hospital.

(*The Lancet*, December 24, 1870.)

In an able paper on the diffusion and arrest of scarlet fever, Dr. Ogle makes the following suggestions:—

1. That it should be rendered compulsory for every householder or medical man to make a report of every case of contagious disease to some recognised authority—either to the ordinary medical inspector of health, if such exists in the district, or to some medical man who should be appointed inspector for the purpose. This should be done, of course, whether the case be among the rich or the poor.

2. That, acting on this information, the duty of the inspector should be to enforce a system or code of proper precautionary measures for the avoidance of the extension of the disease (the details of such a system to be approved by the Medical Department of the Privy Council). Where money and appliances existed, the precautionary scheme would readily and quickly be carried out by friends; but when cases occurred either in the upper or middle classes, in families whose household arrangements are such as not to permit of its execution, but who are able to pay for care and medical attention, then the patients should be removed to "retreats." Hence Dr. Ogle would suggest—

3. That proper "retreats" or "sanatoria" should be provided in some convenient place outside the town, properly segregated, and surrounded by open ground or gardens, probably worked by private speculation (and a very lucrative one Dr. Ogle believes this would be to such medical men as would undertake them), but under the general watching of the before-named inspector. Patients in such sanatoria should of course be attended, if required, by their own medical men, but in very many instances most probably families would be content with the services of

the resident medical attendants. For the indigent, the hospitals or infirmaries provided by the Poor Law Board would be the proper receptacles; and parishes and unions would seem to have as much need of sanatoria for scarlet fever (and that a tolerably constant one) as lately they had for relapsing fever.

4. Dr. Ogle would suggest that scarlet-fever cases should not be capable of admission into any of our general hospitals (any more than small-pox) until the desquamating stage is past; unless provision be made for their isolation in some part of the building devoted to their reception, and provided with all appliances requisite for the treatment of such cases, for which special nurses should exist, having as little communication as possible with the institution at large. Dr. Ogle makes this suggestion by reason of the frequent communication which occurs in our hospitals of the disease from scarlet-fever patients to their neighbours, *even to surgical patients*, which sometimes proves fatal; also on account of the danger of infection which is incurred by the great number of promiscuous visitors, often young children, who come daily into our hospital wards, and hang about the beds of patients, whom they play with and amuse, handling their books and clothing, pocket-handkerchiefs, toys, &c. And this danger is not confined to the visitors, but extends to *their* families at home, to whom they may undoubtedly, by means of fomites, transfer infection, without themselves being the subjects of the disease.

Art. 9.—*Causation of Scarlatina.*

By Alfred Carpenter, M.D., of Croydon.

(*The Lancet*, January 28 and February 4.)

At a meeting of the Medical Society of London, on January 16th, Dr. Carpenter of Croydon read a paper on the Causation of Scarlatina. He considered scarlatina as one of a series of diseases which are epidemic at times, produced by a combined force resulting from the effect of matter acting upon blood more or less impure. The formula $x\ y\ z$ might represent epidemic disease. It was proposed to consider x and y as centric numbers of the equation, as far as the body was concerned, and z as eccentric, as obtained from without. Thus, $x\ y\ z$ might equal typhoid, typhus, cholera, or scarlatina, according to the particular quality or power of the number z. Dr. Carpenter believed that scarlatina might arise *de novo*, having an apparently spontaneous origin, in any position in which the elements required for its development were brought together, and then exposed to the proper physical influences necessary for its growth. Instances were detailed to show how putrid and decomposing animal matter, blood, offal, &c., would cause scarlatina. In the case of three separate families living on a healthy hill, the disease seemed caused in this case by miasma blowing from some fields not far distant, which had been manured with slaughter-house refuse. Another case was given of an outbreak of scarlatina in a school of boys; and nothing seemed to prevent these outbreaks till it was proved that under the playground

was a cesspool which received some refuse from a slaughter-yard. When this was directed elsewhere, the outbreaks of scarlatina ceased. Another instance was that where some children, sleeping over a fowl-house in which the fowls were killed and the blood poured on the floor, were all attacked with scarlatina. Dr. Carpenter's inquiries extended over ten years, and comprised 268 cases of scarlatina that he had attended without one fatal result.—Dr. Thorowgood said that, though he had never considered scarlet fever to be one of those forms of fever that might be generated by animal or vegetable decomposition, defective drainage, or other sanitary shortcomings, yet the conviction was strong in his mind that the disease might be rendered increasingly severe and malignant when any of these were present in a community invaded by the disease.—Dr. Simms inquired whether Dr. Carpenter could point out the one essential cause of scarlet fever.—Dr. Richardson, alluding to his former researches on scarlet fever, said that he believed all he had at that time stated to be in the main still as true as ever. It was important to study the conditions of body favourable to the development of scarlet fever. His own experience would go to prove that the disease was as fatal among the rich as among the poor. The first effect of the poison was on the nervous system. Much depended on the pre-existing state of system in determining the severity of an attack; and at some periods of the year it seemed more fatal than at others.—Dr. Routh inquired if the disease were more fatal among the people who were engaged about slaughter-houses.—The President asked if the amount of blood refuse which passed into the sewers influenced perceptibly the prevalence of the disease, and if those who consumed meat-essences much were liable to scarlatina.—Dr. Carpenter believed the disease to be common in the families of slaughter-men and butchers; and in those districts where much blood passed into the sewers and then became putrid, scarlet fever was almost sure to appear.

Art. 10.—*On Variolous Albuminuria, Delirium, Gangrene, and Paralysis.*

By M. Quinquad.

(*Archives Générales de Médecine*, No. 10, 1870.)

"*Albuminuria.*—Albumen is present in the urine at the commencement of small-pox, and disappears towards the termination of suppuration.

"In most cases, on heating the superior part of the tube which contains the urine, one may obtain a slight annular cloud which does not disappear on the addition of nitric acid. At other times the precipitate is much more abundant. Histologically one finds a few epithelial cylinders or hyaline cylinders with epithelial cells.

"An important fact is that albuminuria occurs in cases of confluent variola with drunkards especially, and, exceptionally, in individuals who have previously had good health.

"*Delirium.*—This phenomenon is very common in variola, especially

among drunkards. Sometimes there is tranquil delirium and bright eyes, the patient having a fixed predominant idea of wishing to be away; sometimes there is much agitation with hallucinations; some patients complain that they are persecuted, others imagine that they are engaged in their usual occupations.

"Delirium occurring before the eruption and continuing for some time after its appearance is a very bad sign.

"Delirium occurring just before pustulation and ceasing after the commencement of this stage is much less serious in a prognostic point of view.

"Delirium commencing with the fever of suppuration is not always a bad prognostic sign. It is necessary to take into consideration the condition of the pustules; should there be a livid and vinous tint of the eruption, the prognosis is serious.

"Finally, violent and continued delirium, manifested at the termination of suppuration or during convalescence, is always serious.

"*Gangrene.*—I have seen one case of gangrene of the skin of the left breast. It occurred in a female who had been attacked by confluent small-pox, after a recent confinement. At the period of suppuration gangrene of the breast came on and was localized in a patch about the size of the hand; from this part there was a discharge of sanious and very fœtid ichor. The lesion was a superficial one, and involved merely the skin, the elements of which were the seat of molecular atrophy.

"In another patient I observed gangrene of the mouth, and in a third case of a man suffering from severe confluent small-pox there occurred, at the period of suppuration, molecular gangrene of the skin of the upper part of the right arm. This patient speedily succumbed. At the autopsy was found lobular pneumonia.

"*Paralysis.*—I have seen two cases of paralysis. One of the patients, young and previously in good health, at the time of desiccation in the course of confluent small-pox was attacked with paresis of the lower limbs with atrophy of the muscles. When the feet were fixed upon the ground the lower limbs bent under the weight of the body, so that the patient could not stand upright; sensibility was almost intact. After a stay of two months in the hospital, mobility gradually returned, and the patient was finally able to walk as well as he did before the illness.

"In a second patient there was deviation of the left scapula about three weeks after the desiccation of confluent variola; the posterior or spinal border of the bone was directed from below and within upwards and outwards; the inferior angle had approached the spine, and projected under the skin: this phenomenon being well marked when the patient extended his arms horizontally. The movement of elevation of the shoulder was very difficult. One had to deal here with paralysis of the serratus magnus muscle. This affection persisted for three months, but finally the patient recovered. The lesions which produce these forms of paresis are probably seated in the cord, but having had no opportunity of making an autopsy in such cases I am unable to give any decided opinion."

Art. 11.—*On a Localized Outbreak of Typhoid Fever in Islington, during the Months of July and August,* 1870.*

By Edward Ballard, M.D., Medical Officer of Health for Islington.

(*British Medical Journal,* November 26.)

This was the first event of the kind which had happened in Islington during the fifteen years of Dr. Ballard's sanitary administration in that parish, and it was so unexpected and curious as to have demanded a special investigation. Within less than a semicircle of a quarter of a mile radius, 168 cases had occurred within ten weeks; and he found it impossible to explain this on the ground of local miasma, bad drainage, or water-supply. Most of the cases occurred in the houses of the wealthy, and some while the families were in the country for their summer holiday. Several suggestions were offered by local practitioners which he disposed of *seriatim;* the last of which was, that the outbreak was due to the distribution of milk from a particular dairy. At first he thought little of this; but as the inquiry progressed, he was driven to adopt it as the true explanation. The evidence adduced was most convincing. Out of 140 families supplied from the dairy, no fewer than 70 suffered from typhoid, and 30 deaths occurred, being at the rate of 17·1 per cent. of the cases. Twice as many cases of typhoid deaths occurred in the limited district referred to as in the whole of the rest of the parish. In confirmation of his inference, he stated that it was remarkable how the typhoid picked out the customers of this dairy in separate streets and squares; it attacked females and children, who are the largest consumers of milk, out of all proportion to male adults; and he adduced some curious instances in which in several families the only persons attacked were those who took this particular milk. At the same time, he did not altogether absolve local miasms from all participation in superinducing the outbreak, since the disease first entered those families among the customers of the dairy, where such local causes were found existent. The author next entered upon the question how the contagion entered the milk. He arrived, by the process of exclusion, at an underground tank on the premises of the dairyman. He was assured that this water was never added to the milk. On opening the tank, however, he found that it was constructed of wood which had rotted, and in part given way, and that from this spot there were several rat-burrows, through which water rapidly ran off into some old drains discovered on deeper exploration. The probability was great that the admixture of water with the milk was the source of its contamination. Charitably giving credit to the statements made to him, he suggested that possibly, as the water was used for cleansing the milk-cans, enough might still remain to poison the milk without any intentional admixture with it being practised.

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* Abstract of a Paper read before the Association of Medical Officers of Health, on November 19.

Art. 12.—*On Cold Bathing in Typhoid Fever.*

By Dr. Fehrsen.

(*The Lancet*, December 31, 1870.)

Dr. Fehrsen, dating from Dresden, states that he has recently visited the military hospitals, and seen the numerous cases of typhoid fever brought from the seat of war in France. The type now raging among the French and Prussian troops, is the typhus abdominalis of the Germans, or what is here known as typhoid or intestinal fever.

The fever cases are indiscriminately mixed with the wounded, and those suffering from dysentery. Many of these were removed to Dresden, and it was determined to try the effects of cold bathing. The mode adopted was, that as soon as possible after admission into the hospital, the temperature of the patient was ascertained. If the thermometer showed 104° Fahr., he was put for fifteen minutes into a bath of 59° Fahr., up to the neck; in cases of much headache or delirium, an additional quantity of cold water was poured over the head, or cold compresses were applied. A measurement, three-quarters of an hour afterwards, uniformly showed a fall of two or three degrees. The cold bath was repeated during the first week from four to six times a day, or as often as the temperature attained to 102° or 103° Fahr., experience having shown that the rapid cooling down of the febrile heat to a normal temperature is a powerful means of mitigating the symptoms, shortening the duration of the disease, and favoring an early convalescence, besides obviating the necessity of prolonged bathing at a later period of the disease.

The most striking benefits derived from this cold bathing are—firstly, that the delirium is generally mild or easily subdued; secondly, an earlier return of sleep; thirdly, a total absence of bed-sores; fourthly, a less prostrate state of the system when the patient leaves the hospital. Women, being more manageable, bathe more willingly than men. Many cry or give way to moaning for a few minutes, until, by a little courage and lying quite still, the body gets accustomed to the cold. If the water, however, be in any way disturbed, immediately they commence moaning and crying, showing, probably, that the stratum of water in immediate contact with the body must have acquired a higher temperature from the evolution of the febrile heat. After the first bath the sick show less objection to its repetition, and some even like it. Dr. Fehrsen saw about two hundred cases thus treated. Nothing contra-indicates the use of the bath except very feeble action of the heart, hæmorrhages, or perforation of the bowels, nor is a little bronchitis considered as an obstacle. The lightest food, with very little claret, is all that is given. Quinine is administered for the express purpose of lowering the febrile heat, sixteen grains being given in two divided doses in the evening. The statistics of the Stadt-Krankenhaus at the present time, contrast most favourably with those of a few years ago, when the mortality averaged $11\frac{3}{4}$ per cent., as at present it does not exceed 4 per cent.

Art. 13.—*Observations on the Pathology and Treatment of Malarious Fevers.**

By Robert Hall Bakewell, M.D., Medical Officer of Health for Trinidad.

(*The Lancet*, February 25.)

In this paper the author gives the results of his experience of malarious diseases during a lengthened residence in the West Indies. After giving an account of the various opinions entertained by different authorities as to the mode in which the malaria poison enters the system, he states his opinion that, when once there, it acts, not by producing any change in the blood which renders it unsuitable for the nutrition of the organs, but by influencing specially the sympathetic nerves; and he attempts to explain the phenomena of the ague-fit on this hypothesis.

In his treatment of the malarious diseases, the author relies on quinine and arsenic, and states that the bilious vomiting and purging, which often in the West Indies accompany an attack of marsh fever, are not, as usually supposed, an indication for the administration of calomel.

Art. 14.—*On Purulent Infection.*†

By M. Bouley.

(*Gazette Hebdomadaire*, No. 8, 1871.)

"Purulent infection follows accidental or surgical traumatism. All species are not equally apt to contract this affection. It may be considered from the following points of view:—

"1. From that of domesticated species;

"2. In these species from the point of view of races and individuals;

"3. In individuals from the point of view of regions and the seat of the accidental or surgical traumatism;

"4. From the point of view of conditions favourable to its manifestations;

"5. From the point of view of preventive and curative means."

From the point of view of species, the equine species is the most apt to contract purulent infection, and has great predisposition to this affection. The organism of the horse does not favour primary cicatrization. This animal has a great tendency to suppuration; the most simple wounds, even that of a leech, do not readily cicatrize, hence the great predisposition to purulent infection. There are, however, exceptions in severe subcutaneous lesions, but the dominant affection of the horse is pyogenesis; two of its maladies show this—glanders and the strangles.

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* Abstract of a Paper read at a Meeting of the Royal Medical and Chirurgical Society, February 14.

† Communicated to the Académie de Médecine.

Purulent infection, then, is relativcly frequent in the horse. This fact must be taken in connexion with that of the slow coagulation of blood in the veins of the horse.

"The ox presents a disposition quite the reverse of the horse. There is in it a great tendency to plasticity. Its organism is refractory to suppuration. This may be seen by applying a seton on this animal. In order to obtain suppuration it is necessary to introduce with the scton a small bag containing corrosive sublimate. In the ox wounds cicatrise by scabbing. Suppuration is a rare event. The pus when it is met with, is essentially creamy, and, finally, contrary to what occurs in the horse; coagulation of the blood takes place rapidly. Purulent infection, then, does not exist in the ox.

"The sheep presents quite a different constitution; being very impressionable, it does not readily endure traumatism. It possesses but feeble plasticity, and there is in it a certain tendency to septic affections. Purulent infection would be frequent among these animals if they underwent frequently more surgical operations; this is proved by the experiments of physiologists.

"The dog, on the contrary, possesses very great plasticity, and is very rarely affected with purulent infection, notwithstanding the operations and pathological experiments so frequently performed upon him. The pig is also a very plastic animal; its wounds are often complicated by obesity, whence it sometimes presents some septic affections, but never purulent infection.

"It is in birds that we find the plastic force developed to the highest degree. The bird is, *par excellence*, a healthy creature. It may be established as a general fact that the bird never presents instances of suppuration. Cicatrization takes place by the first intention. There is no purulent infection, then, in birds.

"With regard to the rabbit, it is an animal that has been calumniated by experimenters, and then there is rabbit and rabbit; the warren rabbit does not comport itself like the tame rabbit. Still this animal is much predisposed to septic and infectious maladies.

"To resume, then, the domestic species considered from the point of view of traumatism and its possible complications of septicism and purulent infection, present among themselves considerable differences in relation to what may be styled their plastic force. From this point of view they may be ranged in the following order: bird, ox, dog, pig, sheep, rabbit, horse. It is in the last-mentioned animal that purulent affections are the most frequent from organic predisposition.

"Let us now consider purulent infection according to races and individuals.

"The tendency to suppuration on which purulent infection is dependent varies singularly according to the race, and in the race according to the individual. In the equine species particularly what a difference is there between the blood horse and the common horse!

"If, for example, the operation of castration be performed upon these two varieties, there being the same operator, the same after-treatment, and similar conditions of media, &c., we find that in the latter animal there will be produced an enormous engorgement and abundant suppuration, whilst in the blood horse quite different phenomena will be observed.

"But what are we to understand by blood? It is an heredicity of qualities in certain races, whether cultivated or not. We have to consider in the cultivation of the race, the choice of parents, the care spent upon the offspring, nourishment, training, &c. Here we have an accumulation of conditions such as to bring about, if they be scrupulously observed, what it is convenient to call the good flesh of a horse. We obtain thence a quite special mode of reaction against traumatism. There is a great tendency to rapid cicatrization, and we have a region which is not propitious to the germs which give rise to phenomena of fermentation. The organic aggregate, if one may so speak, has more cohesion; this militates in favour of the popular doctrine of good and bad flesh in man.

"So much for the horse: in the ox, on the contrary, there is a great identity of races in the species from this point of view. In the poor animal one may sometimes observe phenomena of suppuration, but never purulent infection.

"In sheep one remarks a great difference between races and individuals according to the hygienic conditions in which they are found. The organism of the sheep possesses a great impressionability to media. Art profits by this in order to modify in an inverse sense the morbid causes. From the point of view of traumatism the actual organic conditions play an important part.

"The rabbit varies very much according to the hygienic conditions to which it is submitted. One may make at will the flesh of the rabbit good flesh. There is, moreover, a great difference between the warren rabbit and the tame rabbit; experimenters ought to take this into consideration. An operation which succeeds on the one may fail on the other. There is no difference in birds so long as they are in good condition.

"If we consider now purulent infection from the point of view of the seat of the operation or injury, we may establish as a general rule that the chances of purulent infection are the greater as the venous organization of the region which is the seat of injury is the more perfect. In the horse the majority of purulent infections which have been observed have proceeded from wounds of the foot or from phlebitis of the jugular. Wounds of the bladder very often give rise to infection. Another and not less important condition of purulent infection is the medium in which the animal lives. M. Renault has stated in an interesting work that in a veterinary hospital purulent infection was formerly so prevalent and caused such ravages that the most skilful operators hesitated to perform the smallest operation upon even healthy-looking animals. Then the animals died because they had been subjected to an infected medium. But now such changes have been brought about in this hospital that instances of the above-mentioned kind have ceased to occur. The diseased animals were isolated in horse-boxes, from which period the mortality diminished. It is necessary, then, to take much account of the medium in which animals live.

"The mode of the traumatism also exercises a great influence upon the manifestations of putrid affections. The more complicated the wound the more numerous are the chances of purulent infection. Crushed wounds of the foot and putrid fistulæ of the jugular are

very often followed by purulent infection. Septic changes of the juices of the wound, whether resulting from a local condition or from the influence of the atmosphere, are probably the conditions of purulent infection.

"From these statements result the following propositions :—

"1. That accidents of purulent infection are rare in animals possessed of great plastic force, and, on the contrary, frequent in those animals which are predisposed to suppuration.

"2. That these accidents are common in media infected by miasms, and that they become the less frequent as these media are more pure.

"3. That these accidents are less frequent when the wounds are simple and but little exposed, and more common when the wounds are complicated and susceptible of phenomena of putridity.

"The following therapeutical indications may be derived from these facts :—

"1. To modify the organism by good nourishment. Before and after the operation to administer alimentary support as often as possible; in fact, to afford to man a constitution approaching to that of the ox. It is necessary to follow the instincts of beasts so as not to put our patients on low diet. The animal has no appetite beyond what his wants imply. Veterinary medicine approaches closely to the medicine of man, both as to its errors and its progress. When the doctrines of Broussais were in force and patients were bled to fainting, veterinary surgeons did not fail to use the lancet extensively.

"In addition to giving good nourishment it will be well to administer veritable tonics and generous drinks. Certain medicinal agents, as tannin and quinine, may be given as preventives. According to the experience of M. Gohier, Professor of Veterinary Surgery, tannin has an undoubted influence upon the imputrescibility of organic fibre. The same effects would be produced by quinine.

"The second conclusion to be drawn is that operations should be performed in the best possible atmosphere. The ideal of an essentially beneficial hospital is one composed of isolated cabins in the middle of a park and placed on green sward.

"Thirdly, wounds should be simplified as much as possible. The employment of detersive dressings, as carbolic acid lotion, alcohol, aloes, camphor, and quinine, is to be recommended."

Art. 15.—*Indian Cholera Statistics.**

By S. C. Townshend, M.D., Sanitary Commissioner, Nagpore.

Dr. Townshend arrives at the following conclusions from the documentary evidence in the body of his report :—

1. That for the production of cholera two conditions are necessary—the presence of a special contagion, and a susceptibility to its influence on the part of the person to whom the contagion is applied.

2. That with respect to the origin of the epidemic of 1868, the evi-

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* Report on the Cholera Epidemic of 1868, in the Central Provinces. Folio, pp. 85. 1869.

dence is in favour of the contagion having been brought from elsewhere rather than that it was generated in the localities where the disease first broke out.

3. That the subsequent diffusion of the contagion was effected solely by means of human intercourse.

4. That a high temperature and extreme dryness are no obstacles to the diffusion of the contagion.

5. That with respect to the general population of the country the imbibition of water containing animal organic impurities is the most common means by which personal susceptibility to the effects of the contagion is induced.

Art. 16.—*On the Nature of Atheroma in the Arteries.*

By W. Moxon, M.D., F.R.C.P.

(*Guy's Hospital Reports*, vol. xvi.)

In a very able paper on the pathology of atheroma in the arteries, after giving the opinions of numerous English and foreign writers, Dr. Moxon states that evidence enough has been given to show—1. That what is called atheroma of arteries is sub-inflammation of various degrees; of which the lower degrees end in fatty degeneration of the coats, along with the inflammatory products; and 2. That the determining cause of the occurrence of this change is mechanical change. This, Dr. Moxon states, by no means interferes with any belief that a general altered nutrition, in gout, syphilis, &c., may lay the coats of vessels more open to suffer from the said strain, and he is disposed to think that it is probably true that they do so; but no one has yet shown it to be true that they do. From a review of the teaching of the principal text-books on the subject it is, Dr. Moxon adds, clear that in this country no connexion between atheroma of artery and inflammation of the arterial coats is admitted; it is commonly directly denied, whilst if we turn to consider the teaching current on the Continent we find a very opposite view of its nature to be held.

Art. 17.—*On Sporadic Cretinism occurring in England.**

By C. Hilton Fagge, M.D., F.R.C.P., Assistant-Physician to Guy's Hospital, Physician to the Evelina Hospital for Sick Children.

(*The Lancet*, March 11.)

After a brief reference to the occurrence of endemic cretinism in Somersetshire (as described by Dr. Hugh Norris, of South Petherton), the author passes on to the consideration of a disease of which a few scattered examples have been recorded, and which has been termed

* Abstract of a Paper read at a Meeting of the Royal Medical and Chirurgical Society on February 28.

cretinism, but which differs in certain important respects from the endemic form of the disease. The features in which this "sporadic cretinism" resembles ordinary "endemic cretinism," are the following: The body is exceedingly stunted; the hands and feet are short and broad; the face is broad; the eyes are widely separated by the flat root of the nose; the alæ nasi are thick; the nostrils are rounded; the mouth is very large, and generally widely open. The lips are thick.

When "sporadic cretinism" is congenital, it is also attended with deficiency in the mental powers, varying in degree, but of a character very like that which belongs to the "endemic" form of the disease. The child is quite free from the mischievous tendencies of the ordinary idiot. It is good-tempered, and appears to be pervaded with a placid contentment. It often sits for hours perfectly quiet, wherever it may be left, and it is disinclined to move of its own accord. Sometimes it walks only with the assistance of a chair, even when it has passed the age of puberty. It is not rarely deaf and dumb.

The resemblance between endemic cretinism and the disease now under consideration was pointed out to the author by Dr. Gull. In certain important respects, however, this disease differs from ordinary cretinism. In the first place, it is sporadic. It does not arise by the intensification of a local morbid influence, of which the earlier manifestations are evident in the parents of those affected with it. It springs up, generally without apparent cause, in the offspring of a healthy father and mother. Again, it is not necessarily congenital. In a case exhibited to the Society at its meeting this morbid change commenced at the age of eight years. Up to that time the patient, the daughter of people in comfortable circumstances, had been well-developed. She had an illness which was believed to be measles, after which she ceased to grow, and her bodily configuration underwent a complete change. Now, true endemic cretinism is said always to commence before the end of the fourth year. Goitre is never present in "sporadic cretinism;" indeed, in the only two post-mortem examinations which have as yet been made in such cases, and which were performed by Mr. Curling, no trace whatever of the thyroid body could be discovered. So far as can be ascertained, it appears probable that the thyroid body is likewise absent in the four cases which have recently come under Dr. Fagge's observation, and of which an account is given in the paper. On the other hand, in all these four cases, and in the few examples of a similar kind that have been placed on record by other observers, there have been invariably present certain soft symmetrical tumours, lying one on each side of the neck, just outside the sterno-mastoid muscle. One writer has described these tumours as venous, and they have sometimes been supposed to contain the apices of the lungs, since a distinct respiratory murmur has been heard on auscultation over them. But Mr. Curling showed that they consisted simply of fat, which was not enclosed in any distinct capsule.

Of the four patients who have recently been under the author's observation, one (the girl, in whom the disease began at eight years of age) is now seventeen years old, and is 4ft. 1 in. in height; another, a boy, is eight years old, and is 2 ft. $7\frac{3}{4}$ in. high; a third, about twenty years old, is 2 ft. 4 in. high (this is a boy or man); the remaining patient, a girl, is twelve years old, and 3 ft. $10\frac{1}{2}$ in. in height.

The author is disposed to adopt Mr. Curling's opinion that the atrophy of the thyroid body (if this should turn out to be a constant feature in sporadic cretinism) is the cause of the other phenomena of the disease; and in the concluding part of the paper an hypothesis is advanced, which may, perhaps, explain the apparent contradiction which is involved in the association of this affection with wasting of the thyroid body, while the other form of cretinism is connected with goitre. At the same time it is thought that this hypothesis affords an explanation of certain peculiarities in the relations between endemic cretinism and goitre which have hitherto appeared to be difficult of comprehension. Goitre is endemic in many parts of England where cretinism is unknown. Goitre is the earlier effect of the endemic influence; cretinism shows itself when that influence has been intensified by operating on more than one generation. Hence it might be inferred that the worst cretins would invariably have very large goitres. Such, however, is not the case; they have often no enlargement of the thyroid body. These considerations have led some observers to think that the association of endemic goitre with endemic cretinism is a mere accident. They rather appear to prove that there is a certain antagonism between the two phenomena. A large goitre may possibly have the power of protecting the individual against the more severe effects of the endemic influence. The most careful investigation has failed to show, either in the air, the water, or the soil of Alpine valleys, the presence of any element which is absent where cretinism does not prevail. Hence, if one could discover any counteracting tendency, it would not be improbable that the cause of cretinism prevails much more widely than the disease itself, although, doubtless, with an intensity varying in different localities. The author thinks that to counteract this cause in its slighter degrees may be one of the functions of the healthy thyroid body, which may thus be supposed to perform under ordinary circumstances the same office which the organ hypertrophied to form a goitre is imagined by him to carry out in those districts where cretinism is endemic. If this be so, one can see why wasting of the thyroid body should, in England, produce a form of cretinism.

Art. 18.—*On Rheumatic Paralysis of the Diaphragm.**

By Dr. C. Paul.

(*Gazette Médicale*, No. 11, 1871.)

"Paralysis of the diaphragm is not a well-known affection, but a small number of observations have been collected which are contained in Dr. Duchenne's *Treatise on Localized Electrization.*

"The affection, indeed, is not rare, for it may be frequently observed in angina pectoris and in severe affections of the chest and the medulla oblongata; but in these instances its importance is so very subordinate to the principal affection that it is scarcely regarded but as a prognostic

* Communicated to the Société de Therapeutique, of Paris.

sign. The reports by Dr. Duchenne of cases of pleurisy with considerable effusion, and of another case of paralysis of the diaphragm accompanying metro-peritonitis, belong to this category. In other instances paralysis of the diaphragm occurs in connexion with general paralysis. Such is the case in an observation of lead paralysis made by Dr. Duchenne. In this second class, as also in cases of hysterical diaphragmatic paralysis, the symptoms are more isolated, and may be studied without risk of confounding with them any extraneous phenomena. Thanks to the observations made by Dr. Duchenne, diagnosis of paralysis of the diaphragm is at the present day an easy matter.

"In my own practice I have lately observed a case of this affection:— The patient was a lymphatic youth, about twelve years and a half old. He had had general good health up to the 12th of June last, when, for the sake of sustaining himself against the heat of the season, he placed his feet for about five minutes in a pool of cool water. Two hours after this act of indiscretion he felt a sensation of heaviness over the xiphoid cartilage. This sensation persisted, and on the following morning became very painful and so oppressive that the patient became uneasy. The dyspnœa persisted. I saw him six days after the commencement of the affection, and then made out the following symptoms:—

"The boy complained of constant pain over the lower part of the sternum, and of difficulty in breathing. After every third or fourth respiration he sighed deeply. He raised his chest *en masse* by causing contraction of the sterno-mastoid and scaleni muscles, and, in short, all the elevator muscles of the ribs; then he allowed it to fall in making a singularly prolonged expiration. At the moment of this exaggerated inspiration one could not observe, as in the normal condition, any elevation of the epigastrium, or approximation of the lower ribs to the median line. On the contrary, the sternum and the ribs remained elevated, whilst the epigastrium and hypochondria were depressed. In the interval of the heavy sighing, respiration was carried on by the same abnormal proceeding, but with a moderated muscular effort.

"Thus, then, the ordinary and normal respiratory movement of the male was replaced by a deep respiration, broken at every third or fourth inspiration by heavy sighs. The ordinary mechanism of respiration was changed, although its frequency was not altered. There was also frequent gaping.

"In order to assure myself that this mode of respiration was instinctive, and that it did not result from directing the patient to his manner of breathing, I put a book into his hands, and asked him to read out in a loud voice. As he did this the change in the mechanism of respiration still persisted with this difference, that the supplementary respiration characterized by sighs, did not occur so frequently.

"There was no fever, merely some anorexia. All other functions were normal. On examination of the chest by auscultation and percussion, nothing abnormal could be made out.

"What is this affection? In my opinion it is easy to define. The disturbance of respiration is due to an alteration of the mechanical functions of the thorax. At the moment of inspiration the movements which indicate the action of the diaphragm, such as epigastric elevation and approximation of the lower ribs, did not take place, and during this time

expansion of the chest was brought about by the elevator muscles of the ribs, just as if in inspiration enlargement of the capacity of the chest was not caused by increase of the vertical diameter, but rather by a transverse augmentation of the superior regions, somewhat resembling the female manner of respiration. At each expiration, on the other hand, the ribs, especially at the upper part of the chest, were sunken, and the depression of the epigastrium and hypochondria, produced during inspiration, effaced.

"These details seem to me sufficient to demonstrate the failure of action of the diaphragm, and they also permit me to add that this muscle was not contracted but paralysed. In fact, had there been contraction, the waist would have been immovable, and the epigastrium would not have passively followed the thoracic movements of expansion and concentration.

"Here, then, is the first question answered. There was paralysis of the diaphragm, and nothing present to lead one to suppose that any other muscle was affected; all the other respiratory muscles, on careful examination, were found to retain their functions intact.

"But another problem presented itself—namely what was the disease represented by this local affection? The history of the case permitted me to form an opinion on this point. The sudden appearance of the dyspnœa two hours after the immersion of the feet in cold water led me to suppose that the affection was of a rheumatic nature. This opinion was strengthened by the fact that the electro-muscular contractility was preserved.

"I pass now to the treatment. It is known that rheumatic paralyses often get well spontaneously, but that electrization singularly hastens recovery much better than the medicinal excitants of the muscular system. I had recourse to this method eight days after the commencement of the affection. I tried at first inductive currents—that is to say, localized Faradization of the phrenic nerve. This proceeding failed, not because it was faulty in itself, but because its application was difficult. The phrenic nerve is deeply situated between the sterno-mastoid muscle and the scalenus anticus; still it is an easy matter to press down a reophore into the interspace between these two muscles, and to place it closely over the phrenic nerve. But when the succession of currents excite the nerve, the muscles of the neck contract, displace the reophore and remove the nerve from near the surface.

"I then tried continuous currents from which I had previously obtained good results in cases of rheumatic paralysis. I applied my treatment in the following manner:—I selected the unipolar method—that is to say, I placed the negative electrode in the interval between the left sterno-mastoid and the left scalenus anticus muscles, with a sufficient pressure to bring it closely over the phrenic nerve, and then applied the positive electrode over the left mammary region. A continuous current from a chloride of silver pile of fourteen elements was then passed. The respiratory movements immediately altered in character and became normal. At each inspiration the epigastric region was elevated, and hence indicated diaphragmatic contraction. At the same time the inferior ribs did not approximate, and the muscles of the neck did not contract to dilate the chest. From time to time, after two or three

respirations, there was a certain effort made to re-establish the abnormal mode of respiration, but this was arrested almost immediately, and the respiration remained for the most part diaphragmatic. I discontinued the current several times, and the respiratory disturbances then returned, to cease again on the renewal of the current. The sitting lasted for ten minutes. In the following evening the patient stated that the oppression was less severe. On the following day the amelioration continued, but a new symptom had made its appearance; after the boy had eaten anything, the stomach became enormously swollen. In consequence of this, as it seemed, the diaphragm was pushed back and the dyspnœa increased. This occurred during several days at the end of every meal.

"On the second day of treatment the continuous current was again applied for ten minutes. The diaphragm was made to contract and the dyspnœa ceased.

"After twelve more sittings the patient had quite recovered. Inspiration was performed in great part by contraction of the diaphragm, and it was only occasionally that a sigh occurred during a deep respiration. There was no longer any oppression after a meal. The boy could mount to the fourth storey of the house without any oppression in breathing. His general health was very good.

"This case seems to me to be an interesting one in several respects. In the first place, the fact of a paralysis of the diaphragm as a rheumatic manifestation is worthy of notice. In the second place, the question is presented, was the lesion one affecting the muscle itself, the phrenic nerves or the nervous centres?

"I do not think that the muscle itself was affected; there was no pain, and it is well known how painful are the movements of the diaphragm when the muscular tissue is affected with rheumatism. I hold that it is necessary to consider this case as one analogous to those of the so-called rheumatic paralysis frequently affecting muscles—a form of paralysis in which the muscles are not painful, and the electrical contractility preserved at the action of cold often very evident. It is reasonable, then, to admit in this case an affection of the nerves. Still the fact that both halves of the muscle were paralysed, and consequently both phrenic nerves affected, leads one to suppose that the nervous lesion had a more central seat. This question, therefore, still remains imperfectly determined.

"The last and most important point is that of the treatment. Here we have more satisfaction. The action of the current was prompt and evident. The affection ceased during the passage of the current, to show itself again when this had been suspended. We have, then, a new resource to add to therapeutics, and one that leads us to suppose that electricity holds in reserve many more of a like kind."

Art. 19.—*On Puncture in Anasarca.*

By Handfield Jones, M.D., F.R.S.

(*British Medical Journal*, March 11.)

At a meeting of the Clinical Society of London on February 10th, Dr. Handfield Jones read a short paper on Puncture in Anasarca, in

which he advocated the making a single puncture in the calves of both legs with a fine trocar, and, after withdrawing the stilette, leaving the cannula open for several hours, to allow the fluid to drain away. In this manner he succeeded in the first operation in drawing off sixty measured ounces of fluid from the right leg, but only ten from the left, in consequence, he supposed, of the cannula not lying properly in the subcutaneous cellular tissue. In a second operation on the same man, three days afterwards, he drew off 120 ounces of fluid, besides a great deal which ran from the punctures for several days afterwards, sufficient to saturate three blankets. For the performance of the operation, the man was placed in a sitting posture; and this he considered important, as it facilitated the drawing away of the fluid.

Art. 20.—*On the Periods of Syphilis.*

By Prof. Albert Reder, of Vienna.

(*Archiv für Dermatologie und Syphilis*, iii. 1, p. 40, 1871; *Schmidt's Jahrbücher*, No. 3, 1871.)

Of the periods of syphilis, according to the widely-accepted classification of the same into primary, secondary, and tertiary, the two first can easily be distinguished from one another, since primary syphilis is a local and secondary syphilis, on the other hand, a general affection. There is greater difficulty, however, in drawing the line between the two last periods, the secondary and the tertiary, although characteristic morbid appearances of secondary and tertiary syphilitic affections present sufficiently marked differences.

Following in the path of Virchow, Prof. Reder looks upon the course of syphilis as analogous to the process which takes place in metastasis, and holds that the constituent elements of the original indurated deposit are separated and taken up by the circulation to be deposited again in other localities, where they may give rise to the development of new homogeneous formations. Every deposit which is thus formed through metastasis may itself become an infecting centre, and so in the same way give rise to other deposits which present themselves not only in remote localities, but frequently even in the immediate neighbourhood of the last morbid deposit, and manifest no further indication of their origin than a formation homologous to that of the original deposit, and the presence around the central focus of homogeneous growths.

In the ranks of the morbid deposits thus formed are to be included those syphilitic affections that are called tertiary. They form nodules with or without subsequent softening, resembling in their anatomical constituent elements the primary affection, which are deposited either singly or collectively in very different tissues, though not without a certain predilection for some organs and localities. Progressing independently of one another they form distinct local affections, each of which may again become the starting-point of fresh deposits.

Still one cannot imagine that every efflorescence which resembles in its anatomical character an existing primary growth has been deposited

in so simple a manner, and, indeed, when there is a decided regularity in the distribution of the disease, some other explanation of the process seems to be required.

Secondary syphilitic eruptions are often scattered profusely over the whole surface of the skin, and are generally symmetrically arranged; their interdependence is shown in all phases of their development and retrogression, by their rapid appearance and by the contemporary changes and healing of the efflorescences.

Whilst the metastatic foci are increasing in numbers, the typical efflorescences of the general eruption attain their determined intensity and then no longer exist, and give rise to the development of no fresh efflorescences in their neighbourhood. By these characters do the local morbid foci of a syphilitic eruption assert their common dependence on a general morbid affection of the organism. These secondary affections moreover last only for a certain period, and then, even under the most unfavourable conditions, and when syphilis is in full course, disappear, a characteristic which, together with the profusion and the regular distribution of the efflorescences, reminds one of the exanthemata produced by contagion, only that the former differ essentially in their chronic course; they are likewise accompanied by undoubted subjective and objective phenomena of a general affection. As the blood of syphilitic patients at the time of the appearance of the general eruption is contagious, and consequently the syphilitic contagium is present in considerable amount, one may readily ascribe to this syphilitic contagium a similar power and a similar mode of action upon the organism as other contagia, and accept this mode of action as the chief factor of the general affection from which the general syphilitic eruptions, like the acute exanthems, directly borrow their type. Certainly there is this difference, that in the latter affections the cessation of reaction is followed by complete recovery, whilst in syphilis very often the hurtful material remains in the organism, multiplies there, and gives rise to fresh centres of disease which, however, do not present similar appearances to those of the earlier stage. One is therefore forced to the conviction that either in the course of time a large amount of contagium is eliminated, or that, on the other hand, the contagium of syphilis gradually acquires an immunity which permits it to remain in the organism without giving rise to any lesions save those dependent upon local disease.

From this point of view the course of syphilis may be conceived as follows:—

From the centre of infection elementary particles are given off which act as carriers of the syphilitic contagium to the circulation, probably through the interposition of the lymphatic vessels. These particles, like other heterogeneous material, give rise to a general impairment of the normal activity, which presents a fixed specific character; under the influence of this, the affections, which subsequently make their appearance on the skin, acquire the character of a general eruption, and follow a typical course. After a certain period, which varies in different organisms, there is an immunity from the evil effects of the syphilitic contagium, the general symptoms disappear, the typical characters of the disease are no longer observed, and what syphilitic material is still left in the blood or in isolated foci, results merely in indifferent meta-

static new formations, and affects the organism only by such lesions as are caused by local morbid foci. Constitutional syphilis is thus at its commencement a typical disease, and becomes later an affection irregular in its course and devoid of any type. The first typical period is secondary syphilis; it commences with the appearance of general exanthems, and when the activity of the contagium is exhausted, ceases to produce these lesions.

The fact that tertiary syphilis may show itself during the secondary period, Prof. Reder explains by the great variability of the reaction which may render possible every conceivable transition form, so that it may readily happen that the reaction has power to act upon single deposits, whilst at the same time others are formed mechanically.

With regard to practice, Prof. Reder has drawn the following conclusions from his own views :—

The intensity of the secondary eruptions is dependent upon the susceptibility of the organism to the syphilitic contagium, and that of the tertiary syphilitic processes on the facility with which the contagium is multiplied and strengthened in the organism. The violence of the secondary phenomena affords no fixed point from which one may draw conclusions as to the duration, the extension, and the danger of the subsequent metastases, the importance of which depends more upon their situation than upon their other peculiarities.

The remark that as a rule only a single syphilitic infection is possible, may be referred only to the reaction caused by the syphilitic contagium; it makes its appearance generally only once during life, because, like the reaction caused by the contagium of the acute exanthems, it exhausts itself.

In every instance the secondary reaction wears itself out, its duration varying, according to Prof. Reder, from two to twenty months. The cessation of this reaction is the most favourable epoch for the destruction of the syphilitic contagium in the body. If the disease cannot then be mastered, there is but slight hope of a perfect recovery.

Art. 21.—*On Ulcerative Processes in the Laryngeal Mucous Membrane that result from Syphilis.*

By Dr. Julius Sommerbrodt, of Breslau.

(*Wiener Medizinische Presse*, 20, 21, 22, 25, 27, 32, 33, 1870; *Schmidt's Jahrbrücher*, No. 2, 1871.)

"Although it is usual for syphilis to become readily localized in mucous membranes, the mucous membrane of the larynx exhibits no very great tendency to such localization; it may indeed become the seat of syphilitic affections, but from these it often remains quite exempt. When it is involved, the disease may occur in various ways, without appearing at once in the shape of ulcers. The development of syphilitic ulcers on the mucous membrane of the larynx depends upon the presence of special etiological conditions, chiefly catarrh, excessive straining of the voice, the inhalation of irritating matter, and above

all, those conditions which favour the occurrence of ordinary laryngeal affections. According to Dr. Sommerbrodt it cannot be admitted that there is any dependence of syphilitic affections of the larynx upon similar disease in the fauces and pharynx, since the throat is very frequently affected independently of the larynx, and syphilitic affections of the larynx sometimes occur without any affection of the throat, and also that ulceration of the epiglottis is frequently seen to come on later than that of more deeply-seated parts of the larynx, even when an affection of the throat precedes or accompanies one of the laryngeal structures. The functional movements of the single laryngeal cartilages and the more or less frequent and active friction of the cartilages upon each other caused by these movements, taken together with the individual predisposition, are all important conditions for the production of ulcers. Next to these causes is the development of syphilitic laryngeal ulcerations favoured by the syphilitic infection of the pathological nutritive processes in the mucous membrane, by the retrogressive metamorphosis in the deposited pathological products, new formations, and by the extension of such changes from the mucous membrane to the more deeply-seated parts, above all, to the perichondrium of the cartilage itself. Catarrhal affections of the laryngeal mucous membrane resulting from syphilis, almost always present a chronic character; there is a profuse serous secretion, there is loosening of the connexions of the epithelial cells in the superficial layers of the mucous membrane, and increased cell-formation in the deeply-seated layers; in consequence of this loosening of the connexion of the cells, the upper layer is washed away generally in small portions, but sometimes in large flakes; the whole epithelial layer at the affected part is thus destroyed, and on the raw mucous membrane is found a mass of young immature epithelial cells from which pus-cells are directly developed. In this way the disease progresses from erosion to superficial ulceration, and finally to invasion of the very substance of the mucous membrane. Subsequently ulceration commences in the pathologically altered mucous follicles, which are seated principally at the base of the epiglottis, upon the vocal cords, upon the anterior surfaces of the arytænoid cartilages, and under the rima glottidis; small follicular abscesses are then formed, which break down into follicular ulcers, several of which frequently run together. The third form of syphilitic ulceration results, according to Dr. Sommerbrodt, from the breaking-down of the infiltrations seated in or under the mucous membrane. The ulcers formed in this way are usually of a crater-like form, and present undermined edges. The extension of these ulcerative processes through all the layers of the mucous membrane to the muscles, the perichondrium, and the cartilages, causes the important lesions that are often observed after syphilitic ulceration. Gummata, Dr. Sommerbrodt states, are rarely observed in the larynx and broad-based condylomata he has never seen.

"Ulcerative processes in the laryngeal mucous membrane, resulting from syphilis, may occur at an early as well as at a late period after infection; in one case Dr. Sommerbrodt observed, six weeks after infection, so high a degree of swelling and of hyperæmia of both vocal cords that suppuration would be reckoned upon as being imminent. In two patients no clear syphilitic symptoms were observed

save the ulcerative processes in the larynx—a not uncommon occurrence. Of 84 syphilitic patients 77 were affected with the so-called secondary symptoms, of these 10 had ulceration of the larynx, 13 per cent.; of 5 patients who presented the so-called tertiary symptoms, 3 had the laryngeal affection, 60 per cent.

"The parts of the larynx which, according to Dr. Sommerbrodt's statistics, are most frequently affected, are the true vocal cords, and the epiglottis; and, in the third rank, the posterior wall of the larynx. The parts above the glottis are more frequently ulcerated than the parts below; ulcers, when seated in the latter region, frequently end in stenosis.

"Syphilitic ulceration in the larynx, according to Dr. Sommerbrodt, but rarely causes any considerable disturbance. Ulcers in the neighbourhood of Wrisberg's and Santorini's cartilages, and of the arytænoid cartilages, produce some little pain during deglutition; in the epiglottis the œdema and inflammation accompanying the commencement of the ulceration is often more painful than advanced ulceration itself: even defects of the epiglottis resulting from syphilitic suppuration disturb deglutition much less than might be expected; in one case of total defect of the epiglottis, Dr. Sommerbrodt had frequent opportunities of seeing how, with profuse accumulation of saliva in the laryngo-pharyngeal fossæ, and with the overflow of this secretion into the larynx, the vocal cords came suddenly together, so as to effect complete closure. At the posterior wall of the larynx the ulcers are usually situated in the neighbourhood of Wrisberg's and Santorini's cartilages, and in the membranous slit between the arytænoid cartilages, also on the anterior surfaces of these bodies, but very rarely on their posterior surfaces. The ulcers situated between the arytænoid cartilages are frequently surrounded by an extensive infiltration of mucous membrane which hinders the free movement of the cartilages, and thus occasions impairment of the bone. These ulcers are often deeply fissured, and present at their margins indented excrescences and small papillary outgrowth, through the existence of which one can frequently only guess at the presence of a deeply-placed ulcer. It may often happen that such ulcers have already attacked the underlying cartilage without one being able to obtain a sight of them. There is also much œdema in the neighbouring parts.

"Dr. Sommerbrodt denies the existence of any specific signs of syphilitic ulcers of the laryngeal mucous membrane. In determining the syphilitic nature of such lesions other points are indispensable, and chiefly those that are necessary for diagnosing ulcers of the skin and mucous membrane at other parts of the body, as the previous history of the patient, the existence of syphilitic manifestation at some other part, the exclusion of other diseases, or the results of anti-syphilitic treatment. A further guide in the diagnosis is the presence of cicatrices in the larynx or neighbouring parts, which, on the one hand, have a characteristic appearance, and, on the other, do not well agree with the manifestations of other kinds of disease. Moreover, the usually prolonged duration joined to the absence of pain, and the considerable extension of the destructive processes along the larynx, whilst the constitution is but moderately affected, are all points to assist in the de-

termination of the syphilitic nature of the disease. It is important to know that in the epiglottis deep-seated ulceration involving the cartilages does not occur with tuberculosis, until an advanced stage of the disease. It is very difficult or even impossible to distinguish lupous ulcers from those of syphilis. Cancer can be readily determined when the characteristic malignant outgrowths are present. In the differential diagnosis of tuberculous ulcers it should be borne in mind that the mucous membrane in the neighbourhood of these lesions is remarkably anæmic.

"The course of syphilitic ulcers of the larynx is generally chronic. As there is no tendency to self-limitation they go on increasing in the absence of treatment, both in depth and superficial extent. The originally superficial ulcers in such instances extend down to the cartilages, destroy more or less of the larynx, and cause bleeding from the adjacent parts, caries, and necrosis of cartilage, œdema, and swelling of the mucous membrane, with subsequent stenosis, fistulæ, and adhesions of portions of the larynx to neighbouring tissues, and also adhesions of the cords to one another. When, however, a suitable treatment is applied, these ulcers, in the majority of cases, rapidly heal. Old and far-advanced ulcers do not heal so quickly, and those which have involved the vocal cords are generally obstinate, and show a tendency to relapse. Flat ulcers may heal without any scar; those which are deep always leave behind them the well-known characteristic scarring.

"The treatment must chiefly be directed in the first place against the constitutional affection. In most cases, however, a local treatment is required. Dr. Sommerbrodt derived much benefit from the application of nitrate of silver in substance; in one case much relief followed inhalation of corrosive sublimate. With chronic pneumonic infiltration of the lung, one should not be afraid of administering mercury, since a carefully directed inunction treatment often results in the disappearance of such deposit."

Art. 22.—*On the Pathology and Therapeutics of the Syphilitic Affections of the Nails.*

By Dr. Emanuel Kohn.

(*Wiener Medizinische Presse*, xi., 24, 27, 28, 1870; *Schmidt's Jahrbücher*, No. 1, 1871.)

In addition to the primary affections of the nail, which are caused by inoculation by the syphilitic virus of a wound in the neighbouring integument, and to the affections which follow ostitis or periostitis of the last phalanx of a finger or toe, there is yet another kind of syphilitic disease of the nail of the finger or toe which frequently coexists with pustular, papular, and squamous syphilide, and likewise often comes on after these eruptions have disappeared. This represents, according to Sigmund, the types of the above-mentioned syphilides in the neighbourhood of the nail, and manifests itself in various forms.

In the first of the forms distinguished by Kohn the nail becomes dull and tawny, and its surface sometimes presents small shallow depressions

which give to it a close resemblance to a transverse section of a piece of cane, and at other times becomes thickened, horny, and of yellowish-grey colour. These morbid changes, which occur more frequently on the fingers than on the toes, and even in individuals whose fingers are not predisposed to the disease by the action of chemical or other hurtful agents, may affect either the whole or part of the thickness of the nail the anterior portion of which is separated from the posterior and healthy portion by a sharp line of demarcation. The skin near the free margin of the nail is dry, hard, brittle and fissured. This condition may persist for years, even when all other indications of syphilis have disappeared, and often results in spontaneous separation of the diseased nail after it has been forced further and further from its root. Under the nail, adhering to the finger by only a small portion of its under-surface, is generally developed in adults a new nail, which thrusts forwards the old and diseased nail, the sharp posterior edge of which has become indented, the substance of the new nail pressing forwards and becoming fixed in the indentations at the posterior edge of the old one, and sometimes in some of the orifices observed on its surface. In many instances the old nail remains lying on the top of the new one, and then falls off in a single plate when the latter has pressed sufficiently forwards. This process goes on during a very long period, and lasts in favourable cases for several months, generally for years. Although, as a rule, the presence of other syphilitic symptoms is required in order to decide upon the specific origin of this affection of the nail, still certain doubtful and difficult cases may occur in which this condition may be of great value in the diagnosis of syphilis, since it often persists for many years after the disappearance of all other syphilitic phenomena.

A second form of this affection occurs more frequently in the nails of the fingers than in those of the toes; and manifests itself simultaneously with exanthems on various parts of the body and generally with some eruption on the hand or fingers. This form consists in an inflammation of the matrix of the nail. The posterior part of the nail swells and reddens, but, what is a very important and almost unexceptional characteristic of syphilitic affections of the nail, its temperature is not elevated. The skin under the swollen nail soon gets scaly, and the nail itself either undergoes similar changes to those presented in the first form of the disease, or, as in cases where only part of the matrix is affected, is diseased over a very small extent. In cases of this kind complete recovery occurs without any treatment after a certain period, which indeed may extend over several months. There are frequently formed on the fold at the back of the nail moist papules, which are converted into well-circumscribed ulcers which secrete a profuse fœtid discharge, and the bases of which are situated sometimes above and sometimes below the level of the skin.

A third form differs from the two forms just described by its more rapid course, and by its occurring in the nails of the toes as well as in those of the fingers; it shows itself in various ways, but is always accompanied by inflammation and suppuration. In well-marked cases of severe general syphilis with widely-spread papular syphilides on the buttocks and extremities, papules on the genitals, affections of the mucous membranes and the scalp, the space between the free edge of the nail

and the pulp of the finger or the toe, generally of several fingers or toes, is filled with a mixture of blood and a thin or thick fluid secretion; the nail itself is of a dirty yellowish brown or dirty grey colour, and no longer transparent. After removal of the secretion, a long furrow-like ulcer may be observed, which has a tendency to extend on both sides to the matrix; finally, the matrix is attacked, and the ulceration extends under the whole of the nail. On moving the nail, there is pain and slight hæmorrhage; sometimes there is pain even when the nail is not moved. When the lesion is seated in the foot, walking gives rise to intense pain. In this stage the lesion, which is the most frequent form of syphilitic affection of the toes, obstinately persists, in spite of all treatment for months, until ultimately the suppuration gradually and slowly ceases, and the open sores are covered by skin. In this form of disease the nail is not lost. In further advanced general syphilis, and when the skin has been attacked by ulcerative syphilides, the nail affection takes another course. In the soft tissues surrounding the nail is developed a rapidly-extending ulcer with raised edges and secreting very fœtid pus, frequently mixed with blood. This ulcer readily bleeds when touched, and is generally very painful. In the further progress of the affection the ulcer gradually involves the whole circumference of the nail, which is detached at one side and bent upwards, becomes thickened, discoloured, and brittle along its whole extent, and finally falls away in pieces. In its place is then found a single, uneven, painful ulcer with irregular edges, which often extends deeply so as to cause much destruction of tissue. The healing of this ulcer takes place very slowly. In most cases the nail never grows again, as the matrix has usually been destroyed. If this should not have been the case, which, however, is exceptional, the nail is more or less completely replaced but the new structure never attains the hardness of the normal nail.

Although syphilitic onychia does not present any special characteristics by which it can be distinguished from similar affections of the nail due to other causes, still, according to Dr. Kohn, the relative frequency of this affection in cases of well-marked syphilis permits one to conclude that it depends upon the dyscrasia. For the determination of this dependence in any special case it is necessary, however, to be in a position to recognise the existence of other symptoms of syphilis, and to occlude the possibility of other causes. The co-existence of the disease on several fingers or toes may be of value in strengthening the diagnosis to a certain extent, since the affections of the nails due to traumatic influences are frequently isolated.

The treatment is necessarily a local one, since a general anti-syphilitic treatment has very little influence upon this lesion. In many cases simple water-dressing is sufficient when combined with occasional cauterization by nitrate of silver and careful cleansing of the ulcerated surfaces by baths and irrigations. Baths containing corrosive sublimate or tincture of iodine, salves of white or red precipitate, and mercurial plaster are all useful applications. When the ulceration about the matrix has a foul appearance and bleeds readily, it is necessary to remove the diseased nail, as it acts now as a foreign body. The newly-formed plates, too, which appear after the expulsion of the old nail, may likewise set up irritation in this way, and so need to be removed. In

such cases the end of the finger swells in consequence of inflammation, and the lymphatics take part in the mischief, so that even serious general disturbance may arise. These troublesome symptoms generally disappear after a short duration, but may readily return. To relieve this condition there is no other means than a removal of the sharp fragments of diseased nail which set up the irritation. There is no necessity for removing the nail when suppuration is absent and the ulcer near the matrix has skinned over. In order to protect the end of the finger or toe from irritation Dr. Kohn recommends the local application with a brush of a solution of gutta-percha in chloroform. To prevent eczema, which readily attacks delicate skins, fresh lard should be rubbed in. The surfaces of ulcers may also be previously protected by lard when the application of the solution of gutta-percha causes severe burning pain.

Art. 23.—*On Mercury and the Treatment of Syphilis.*

By Dr. Güntz.

(*Aerztliches Literaturblatt*, Nos. 3, 4, 1870.)

According to the author the mercurial treatment in syphilis should be first introduced when induration has become well-marked. The secondary symptoms are to be treated by mercury, the tertiary by iodide of potassium. Mercurial baths ought not to be used when ulcers exist on the skin. The internal administration should be carefully watched and associated with much attention to hygiene The mercury should be increased in its dose every tenth day, and continued until salivation is produced. Iodide of potash acts with great uncertainty, sometimes rapidly, at others tardily ; it is, as a rule, well tolerated. The bichromate of potash is a very efficacious agent in the treatment of syphilis, although perhaps one does not obtain more from this than from mercury. The following are the chief results derived from therapeutical experiences of syphilis :—1. Syphilis in a not inconsiderable number of cases gets well spontaneously. 2. In other cases syphilis gets well after the administration of mercury. 3. Syphilis may be eradicated after the use of mercury and other agents, either given together or alternately. 4. Syphilis may disappear after a tonic plan of treatment, without any of the so-called special medicinal agents. 5. In some instances syphilis, in spite of the most varied modes of treament, cannot be brought to a cure. 6. Syphilis, especially when indicated by pustular eruptions of the skin, may take on a bad form during the administration of mercury. 7. In several other instances in which no pustules exist, syphilis may also take on a bad and malignant form under the influence of mercury. 8. One cannot, by administering mercury at the commencement of the disease anticipate or prevent, with any certainty, later manifestations of syphilis. 9. Under certain conditions mercury is especially useful in the treatment of some late forms of the disease. 10. Concerning the mode of giving mercury, and its forms and doses, the views of authorities vary much. 11. Their views vary also with regard to the combination of

mercury with other agents. 12. With the mercury cure relapses are much less frequently observed after the production of ptyalism than in cases where the treatment has not been pushed to this extent. 13. The bichromate of potash in its action on syphilitic symptoms has properties similar to those of mercury, but does not give rise to the bad results of the latter remedy.

SECT. II.—SPECIAL QUESTIONS IN MEDICINE.

(A) CONCERNING THE NERVOUS SYSTEM.

ART. 24.—*On the Nature and Causes of Hysterical Phenomena.*

By Dr. CHAIROUD.

(*Gazetta Med. Ital. Lombard.*, No. 8, 1870; and *The Medical Record*, March 1.)

The following is a *résumé* of Dr. Chairoud's observations on the relation of diseases of the ovary to hysteria. 1. Where compression or inflammation of one ovary or of both exists, paralysis of the reflex movements of the epiglottis and of the pharynx constantly occurs. 2. The combination of these two groups of symptoms in one individual may be designated the hysterical cachexia. 3. The hysterical paroxysm is only the consequence of the reflex paralysis. The suffocating attack is occasioned by the paralyzed epiglottis narrowing the orifice of the larynx, and then there follow the convulsive movements of the extremities, and the muscular spasms that collectively constitute the hysterical crisis. 4. The asphyxia proceeding from the frequent recurrence of these symptoms gradually leads to a change of the whole physical nature of the patient. From hence result the various sensorial disturbances and the anæsthetic conditions that are exhibited by almost all hysterical patients. The treatment of hysteria should, if these views are correct, be directed to functional disturbances of the ovaries, and is in consequence purely local with a view of subduing the oophoritis, as the primary, if not the only cause of hysteria.

ART. 25.—*Notes of a Clinical Lecture on Chorea.*

By Dr. DICKINSON, of the Hospital for Sick Children.

(*The Lancet*, April 15.)

Dr. Dickinson commenced his lecture by giving a brief account of the affections closely allied to chorea, which have attracted attention at different times, and acquired separate names—namely, the dancing mania of St. John, which spread from Aix-la-Chapelle to Cologne, Metz, and Strasburg; the Tarantula dance of Southern Italy; the "Convulsionnaire" of France; and a similar affection which is observed among the

natives of Abyssinia. He showed that these diseases were dependent on an intimate connexion between the intellectual faculty and the voluntary muscles, and that the infection spread mainly by imitation. He also suggested that the phenomena observed in the Jumpers of Cornwall and the Shakers of the New World to follow the reception of powerful religious impressions are likewise allied to chorea.

Directing attention to the *cause* of chorea, he said that it could in a large number of instances be traced to fright, and adduced the evidence of a number of cases which he had brought down from the wards for purposes of demonstration. Another, but less frequent, cause was irritation, arising from an unhealthy condition of some part of the body, such as a loaded intestine or an irritable condition of the uterus. A case in point was that of a girl, sixteen years of age, who had died of an attack of chorea. The cervix uteri was found to be in a state of intense congestion, and the os was covered with a membrane resembling that of diphtheria; there were also traces of recent endocardial deposit. The pathological connexion between chorea and certain conditions of the heart and lining membrane Dr. Dickinson was inclined to attribute to a peculiar condition of blood, which is favourable to the deposition of lymph, and tends also to induce congestion of the cerebro-spinal system. With regard to the age at which chorea most frequently occurs, the hospital registration was said to show that children between the ages of six and fourteen are most liable to it; but it was not purely a disease of childhood, though after puberty the frequency of its occurrence decreased with advancing years. One case which Dr. Dickinson mentioned was that of an old man, sixty-four years of age, who became violently affected on learning the death of his master.

Turning to the *symptoms* of the disease, Dr. Dickinson said that it had been well defined as an insanity of the voluntary muscles; the only involuntary muscle liable to be included in the morbid influence was the heart, which was histologically a near ally of the voluntary muscles. He thought that, nevertheless, the heart is not usually affected primarily like the other muscles, but influenced secondarily by the endocardial deposit. As to the parts chiefly affected, he said that, as would be expected, they were those which are principally governed by the centres in which the intellectual faculties preside, and that accordingly the muscles of the upper extremity were first and chiefly affected, those of the lower extremity being later affected, and to a less degree, and recovering earlier. Examples were then given of some of the less obvious developments of this disease; among these were the cases in which the only symptom is a peculiar barking or some other inhuman sound produced by irregular action of the laryngeal muscles; or a peculiar and violent spasm of the orbicularis, most frequent in old age, which makes the patient wink violently; another was that of a woman whose head turned slowly over to the right shoulder, and remained there until guided back with the finger placed against the chin, and returned immediately in the same manner when the finger was removed.

With regard to the *course* of chorea, Dr. Dickinson said that, unlike the specific fevers, it had no tendency to end within a definite time, and was not generally fatal. The cases which do end fatally were said to be almost always those in which the movements produce excoriations on

the prominent parts of the body which they would not allow to heal, and perhaps also keep the patient from sleep. Under these circumstances he would be found to fall into a condition which is characterized by dryness of tongue and rapid pulse, and differs only from that which results in typhoid fever in the skin remaining cool.

Dr. Dickinson professed himself unable to throw any new light on the *pathology* of this disease, other than that which might be yielded by one of the specimens he was about to show. He was inclined to attribute the cardiac complications of chorea to the hyperfibrinous condition of blood already alluded to, rather than to a genuine inflammation. They were unquestionably liable to occur, no matter from what exciting cause the disease arose, whether from fright, worms, or a loaded condition of the bowel, and whether or not it followed or was accompanied by distinct rheumatic affections.

As to the *treatment*, his faith in most of the drugs of which trial had been made was very limited. Most patients improved more or less during the first fourteen days, if merely placed in bed and kept at rest; but if within this time recovery did not take place, medicinal treatment must be resorted to. First it would be well to give a sharp purgative of calomel and jalap to ensure the removal of sources of intestinal irritation, and then one of the metals which experience had shown to be of value. Of these the most useful were the sulphate of zinc and iron in some form, the former applicable to florid and robust patients, and the latter to those who are anæmic. The administration of the salt of zinc should commence in doses of one grain every six hours, which should be increased by a grain daily up to from twenty to twenty-five grains. When thus administered the emetic effect was avoided, and the majority of the cases to which it was applicable would recover. But if, on the contrary, the case should become chronic, a nervine tonic would be demanded, and of these the best were arsenic and strychnia; with these might be advantageously combined change of air and gymnastic movements, and in those cases which presented an hysteric element, the sudden application of cold, as, for example, by means of the shower-bath. Speaking of music, which has been said to be of value in the treatment of the Tarantula dance, Dr. Dickinson said that the connexion existing between the sense of hearing and the action of the voluntary muscles suggested an explanation of its possible value, and he regretted that it had not yet been fairly tested in this country.

Of the many other drugs which had been suggested for the treatment of chorea, Dr. Dickinson said there were none he could recommend. Sufficient trial had not been made of chloral in the hospital to enable him to pronounce upon it. Antimony certainly had a tendency to effect a marked diminution in choreic movements, if given in large doses; but as chorea, when fatal, proves to be so through prostration, he considered that the use of so lowering a remedy must be unadvisable. Several of the fatal cases which had come within his cognizance had been treated with that metal. Belladonna he had seen given in daily quantities ranging up to seventy grains of the extract without any beneficial effect. He had no faith in either conia or bromide of potassium; and valerian was only of use where chorea is complicated with hysteria.

After the lecture, Dr. Dickinson exhibited a number of microscopic

specimens taken from a child who had died of chorea. They showed that the pia mater, the corpus striatum, the pons Varolii, the velum, and the spinal cord—in fact, the entire cerebro-spinal nervous system—was loaded with blood-corpuscles; but the most interesting was a specimen which presented a small cavity in one of the anterior cornua of a portion of spinal cord taken from the lumbar region, the tissues at the circumference of the cavity were softened and broken, and the cavity itself was crowded with blood-corpuscles.

Art. 26.—*The Ophthalmoscope in the Treatment of Epilepsy.*

By Reuben A. Vance, M.D., of New York.

(*The Medical Record*, April 1.)

In the management of five recorded cases of epilepsy Dr. Vance places great stress on ophthalmoscopic examination. For the last two years he has almost unconsciously fallen into the habit of mentally arranging his patients according to the intra-ocular appearances observable with the ophthalmoscope. In one class of patients the efficient cause of the paroxysms is an excessive amount of blood circulating through the brain; while, in other cases, the opposite condition—an anæmic state—produces the epileptic phenomena. In concluding his valuable paper, Dr. Vance asks, Why is it that certain cases of epilepsy are cured by the administration of the bromide of potassium? Simply because they have as their efficient cause a congested condition of the brain, which this agent, properly administered, tends to relieve. Why is it that certain other cases are made worse by the bromide, and benefited by such remedies as strychnia and belladonna? For the reason that their efficient cause is an anæmic condition of the brain, which the bromide aggravates. The good effect of the other drugs is to be ascribed to their power of producing a hyperæmic condition, which counteracts the preceding anæmia. Why is it that the bromide relieves for a while, and then, apparently, fails in its power, the fits returning in an altered form? The answer to this is, that the remedy, by its excessive action, tends to produce an anæmic state of the brain, which causes the return of the convulsions.

He is fully convinced that even the most unpromising cases may be relieved, and their unfortunate condition very much mitigated by systematic and careful attention.

Art. 27.—*On the Treatment of Paralysis Agitans by Hydrate of Chloral.*

Under the care of Dr. Althaus, at the Infirmary for Epilepsy and Paralysis.

(*Medical Times and Gazette*, December 3.)

The following is one of eleven cases of shaking palsy which have been treated with hydrate of chloral:—

R. B., aged sixty-six, married, a coachmaker, admitted as an out-patient on December 2nd, 1868, has been in good health until twelve months ago, when he over-exerted himself in lifting a heavy load, and soon afterwards noticed that the left hand and arm began to shake. This went on for some time, when the left leg became likewise affected; and the right leg is now also subject to trembling, while the right arm has hitherto escaped the disease. The head shakes sometimes, but very slightly. The patient has been in the habit of smoking half an ounce of tobacco weekly, but has never exceeded in drinking. He complains of pain across the forehead, and occasional giddiness; he sleeps well; and digestion and assimilation are in good order. The shaking is increased by excitement, but not by manual labour; it is arrested during sleep, but recommences a few minutes after waking, even when the patient keeps quite quiet in bed; and it goes on without any intermission whatever during the whole of the day. There is a slight increase of bulk and temperature in the left over the right arm.

The patient was first treated with phosphorus, commencing with one-fortieth of a grain, and taking ultimately one-fifth of a grain in pill, twice a day, but without any effect; then with subcutaneous injections of morphia and atropia, which made him feel giddy, but did not diminish the shaking, even for a few minutes; after which bromide of potassium was given, the dose of this being at last increased to forty grains three times daily. This made him feel so stupid that he did not know what he was doing; he felt giddy, silly, and agitated, saw visions of thieves and of post-boys with four horses rushing about, &c. At the time that these symptoms of central nervous depression were most marked, the shaking was decidedly less; it only commenced about an hour and a half after waking, and the patient was sometimes quite free from it for ten or fifteen minutes during the day; nor was it so violent as before. Although there was, therefore, a decided improvement of this most troublesome symptom, the mental disturbance produced by the remedy was so great that, after it had been vainly endeavoured to check these effects by adding arsenic to the bromide of potassium mixture, it was found necessary to discontinue the drug. The following remedies were then successively used, alone or in combination:—Nitrate of silver, belladonna, strychnia, chloride of gold and potassium, iodide of potassium, pushed up to twenty grains three times daily; and hypophosphite of soda. None of these medicines produced any effect on the palsy. Hydrate of chloral was now commenced, ten grains being given three times daily for a week; as this appeared to have no effect, the dose was gradually increased to fifteen and twenty grains, with no better result; ultimately, twenty-five grains were given as a dose, which produced decided cerebral disturbance, similar to that observed after the large doses of bromide of potassium. After the evening dose the patient went to sleep at once, but after the morning and noon dose he felt as in delirium, seeing visions, &c. The dose just mentioned was continued for ten days, the patient being quite willing to undergo the temporary inconvenience caused to him; but as there was no improvement whatever in the shaking all the time, the remedy was given up.

Ten other cases of shaking palsy have been treated with chloral; in six of them the drug caused mental excitement and increased shaking;

in the four others, twenty grains thrice daily produced no effect whatever, but twenty-five grains produced sleepiness. In none of the cases did the chloral seem to afford the slightest relief to the shaking.

Art. 28.—*On the Treatment of Spasmodic Wry-neck by Hydrate of Chloral.*

Under the care of Dr. Althaus, at the Infirmary for Epilepsy and Paralysis.

(*Medical Times and Gazette*, December 3.)

This affection is almost as intractable as the severe forms of paralysis agitans, although it sometimes yields to the influence of electricity, more especially to galvanization of the cervical sympathetic. Yet it would be most desirable to find a remedy more easy to use by the practitioner than the continuous current; and with this view chloral was given in two cases, after other nervine tonics and alteratives had failed. The effect, however, was negatived in both cases.

Art. 29.—*On the Treatment of Chorea by Hydrate of Chloral.*

Under the care of Dr. Althaus, at the Infirmary for Epilepsy and Paralysis.

(*Medical Times and Gazette*, December 3.)

If patients suffering from chorea are placed in favourable general and hygienic circumstances, and a tonic is given at the same time, recovery is the rule. For six months past the cases of chorea which have come under Dr. Althaus's care were so divided that the first was treated with chloral, the second with zinc, and the third with the ferro-arsenical mixture. Excepting one, they all recovered within from three to ten weeks, there being a slight difference in favour of chloral. The one exceptional case was that of an adult male, aged thirty-two, who suffered, in addition to the chorea, from epileptic seizures; whose father had suffered from epilepsy, while his mother had been highly hysterical, so that the case was unfavourable from the first. The chorea came on when the patient was seven years of age, and has rather increased than diminished of late, having resisted a variety of remedial measures. It is now most severe in the lower jaw, whereby the patient is often prevented from speaking, being only able to ejaculate, as it were, single words at intervals. In the hands it is sometimes so bad that the patient cannot feed himself, and the legs are often so unsteady that he falls right on his back when he attempts to stand or to walk. After bromide of potassium, arsenic, zinc, silver, gold, and other nervines had proved ineffectual, chloral was given, with the following results:— Doses of ten grains twice or three times a day act as a temporary

stimulant; the patient feels fresher, steadier, and better able to exert himself. From twenty to twenty-five grains produce, apparently, attacks of *petit mal* and great torpor of the brain for several days consecutively. As the patient cannot take any alcoholic stimulants without immediately feeling an increase of unsteadiness, and greater liability to epileptic seizures, he finds the stimulant effects of the smaller doses of chloral extremely grateful. These effects, however, are quite temporary, and do not extend beyond four or five hours after the dose has been taken.

Art. 30.—*Syphilis of the Nervous System.*

By E. L. Keyes, M.D., Physician to the Bureau of Out-door Relief, Bellevue Hospital.

(*New York Medical Journal*, November, 1870.)

Dr. Keyes has published a careful clinical study of this subject, chiefly in regard to diagnosis and treatment, founded on thirty-four cases under his care and that of Professor Wm. H. Van Buren, M.D.

Dr. Keyes thus sums up his conclusions :—

1. That nervous symptoms depending upon syphilis may arise within the first few weeks after an infecting chancre, or at any period later during the life of the individual.

2. That it is presumable, from the study of published autopsies, that the earlier a nervous symptom (paralytic or otherwise) occurs, the less likely is there to be any material lesion which an autopsy can reveal; and that in a given case there exists no constancy of relation between the nature, the situation, and the severity of the lesion, and the nature, situation, and severity of the nervous symptom to which that lesion may give rise.

3. That cerebral congestion is probably the pathology of many of the earlier nervous syphilitic symptoms.

4. That syphilitic hemiplegia occurs, as a rule, without loss of consciousness, even when the attack is sudden; but that the paralysis usually comes on gradually, the patient being under forty years of age, and having had fixed constant headache for some time before the attack.

5. That mydriasis, existing alone, or with other nervous symptoms, without positive disease of the eye, is presumptive evidence of syphilis.

6. That paralyses of single muscles, or sets of muscles, are frequently syphilitic.

7. That syphilitic paraplegia generally comes on gradually, often without any local symptom to call the patient's attention to the injured portion of the cord, and that it is rarely complete. That the bladder almost always suffers more or less, and calls for special local treatment. That paraplegia may be developed as a symptom of inherited syphilis.

8. That syphilitic epilepsy usually occurs after thirty, in patients who have not had epilepsy in early life. That headache is liable to precede the attack. That the convulsions occur often, many in quick succession, the intermission between the series of attacks being comparatively long, but that, during this period, headache or other nervous

symptoms exist and become aggravated, contrary to what obtains in idiopathic epilepsy. That syphilitic epilepsy is liable to be associated with, or followed by, some form of paralysis.

9. That aphasia is often associated with the intellectual disturbances caused by syphilis.

10. That loss of memory is a common nervous symptom of syphilis, as are also all forms of mental disturbance—from mild hallucinations and illusions up to actual insanity, and all these without any necessary accompanying paralysis.

11. That inordinate emotional expressions are often associated with the mental weakness caused by syphilis.

12. That care must be taken to distinguish certain symptoms caused by gout, from the same symptoms owing their origin to syphilis.

13. That the prognosis is better as a rule for nervous symptoms caused by syphilis than for the same symptoms depending on a lesion equal in extent, caused by another malady of the nervous centres; but that, after the arrest of the disease, an indelible impression is often left upon the nerve-tissue, which manifests itself by impaired function, and which treatment cannot overcome.

14. That the iodide of potassium pushed rapidly to toleration, unless the symptoms subside before that point is reached, is the main outline of treatment. That mercury, used at the same time, or alternated with the iodide of potassium, is often of great value in protracted or inveterate cases; and that tonics, change of air and surroundings, frequently influence the effect of treatment in a marked degree, and may become essentials to success.

(B) CONCERNING THE RESPIRATORY SYSTEM.

ART. 31.—*Fungus as a Cause of Whooping-cough.*

By Dr. LETZERICH.

(*Quarterly Journal of Microscopical Science*, April.)

The germ-theory of disease, which some pathologists seek to extend so widely, has been applied by Dr. Letzerich to explain the extremely infectious disease, whooping-cough. He thinks he has discovered a form of fungoid growth which vegetates in the epithelium of the air-passages, and by its irritation causes the convulsive attacks of coughing. The expectorated mucus in patients suffering from this disease is said to contain masses of brownish-red spores with occasional threads of mycelium, which in later stages of the disease becomes very abundant. The spores are coloured blue by iodine and sulphuric acid. These observations were controlled first by cultivation of the spores on pieces of bread soaked in milk, and further, by introducing masses of the fungus growth thus obtained into the trachea of young rabbits. This was effected by tracheotomy, but the animals rapidly recovered from the effects of the operation, and in a short time became affected with a cough of a very violent and noisy character; in fact, a genuine whooping-cough. The rabbits thus affected were killed, and their air-passages

and lungs found to contain an enormous quantity of the same fungus as that met with in the sputa from human whooping-cough; and, in fact, the mucus expectorated by the rabbits showed precisely the same appearance.

Art. 32.—*Treatment of Diphtheria.*

By James A. Martin, M.D.

(*Australian Medical Gazette*, December, 1870.)

Taking diphtheria to be a disease in which the morbid productions in the throat are the result of blood-poisoning from uncertain causes, but chiefly from the inhalation of virus from the air; and believing it to be in all cases attended with symptoms of debility, especially in strumous constitutions, the general character of the disease indicates tonic and stimulant treatment. The appetite almost invariably fails at an early period of the illness; and, at a later stage, partly from dislike to food, partly, perhaps, from the difficulty of taking it, but probably, also, from extreme debility rendering patients averse to exertion, there is often much difficulty in inducing them to take sufficient nourishment to sustain the failing strength. If the outside of the throat is swollen, the linimentum iodi of the British Pharmacopœia may be applied externally; and if the disease has involved the tonsils and uvula, Dr. Martin paints over the inside of the throat with the following lotion:—

℞ Aluminis sulph., ℥j.
Acidi sulphurosi, ℥ss.
Glycerinæ, ℥ss.
Mellis, ℥jss.
Aq. ad ℥vj. M.

To be applied, or used as a gargle, every two or three hours, according to urgency of symptoms. Internally, he directs:—

℞ Quiniæ disulph., gr. xiv.
Potass. chlor., ℥ss.
Acidi hydroch. dil., ℥j.
Tr. ferri mur., ℥jii.
Aquæ & syrupi aurantii ad ℥vj. M.

Of which he orders one dessert-spoonful, or according to the age of the patient, to be taken every three hours. He invariably allows plenty of beef-tea, chicken-broth, brandy, eggs and milk, in quantities according to circumstances and debility. This kind of tonic and stimulant treatment Dr. Martin has found to be the most successful. Ablution of the skin and friction, with free ventilation and strict cleanliness.

Art. 33.—*The Treatment of Pneumonia.*

By J. Hall, M.D.

(*Canada Medical Journal*, December, 1870.)

In the first or congestive stage of pneumonia in plethoric subjects, in healthy, non-malarial regions, blood-letting is a valuable

therapeutic agent, but in the second stage, and in malarial regions, as a rule, it is hazardous. Dr. Hall has not practised blood-letting nor used tartar emetic in the treatment of pneumonia for ten years, because we have other therapeutical agents that answer better, and are attended by none of the dangers incident to the use of these agents. Veratrum viride and digitalis are the remedies upon which he relies to control the undue action of the heart and arteries. In the early stage of the disease, in robust subjects, after moving the bowels with a mercurial purgative, he gives Norwood's tincture of veratrum in four-drop doses, with ten grains of nitrate of potash, and from a fourth to a third of a grain of morphia, every four hours, increasing the tincture two drops every dose until the pulse is reduced to sixty-five a minute, or nausea and vomiting occurs. He then reduces it to four drops, and continues it until the active stage of the disease has passed by; then stops the veratrum, but continues the nitrate of potash, with from one to two grains of opium and half a grain of ipecac.; and where there is a tendency to asthenia he adds two grains of quinia to each dose. Under this treatment, frank, uncomplicated cases of pneumonia seldom fail to terminate by resolution in from six to twelve days. But in some cases it fails, and the fever continues, with derangement of all the secretions, and complete hepatization of a portion of the lung-tissue. In such cases Dr. Hall has derived great benefit from the use of mercury, digitalis, and opium, with free vesication over the diseased lung. He usually gives one grain of calomel, with two grains of digitalis and one of opium, every four hours, and continues until resolution is established, or the constitutional effects of the mercury are manifested. He then discontinues the mercury and adds two grains of quinia to each dose, until the febrile excitement is controlled.

In asthenic pneumonia of old or delicate subjects, after opening the bowels with castor-oil or Epsom salts, he usually relies upon digitalis, muriate of ammonia, and opium. He gives from one to two grains of digitalis in substance, with ten grains of muriate of ammonia and one grain of opium, every four hours, until the febrile excitement is controlled; he then stops the digitalis and adds two grains of quinia to each dose until convalescence is established.

In pneumonia, complicated with malarial fever, Dr. Hall finds a combination of quinia, digitalis, and opium to answer admirably. He usually gives five grains of quinia, with one or two grains of digitalis and one of opium every four hours. He seldom uses purgatives in the treatment of pneumonia after the bowels have been once thoroughly evacuated; and if necessary to open them again, he prefers saline laxatives.

Stimulants are seldom necessary, and Dr. Hall thinks are often injurious if given in the early stage of pneumonia. In the advanced stage they are valuable, and in many cases indispensable. He prefers carbonate of ammonia and brandy to all others. Nourishment is an essential element in the treatment of all protracted cases, and milk is to be preferred to all other articles of diet.

The local treatment of pneumonia is of considerable importance, Dr. Hall generally relies upon cupping and sinapisms; if they fail to afford relief, he injects a solution of morphia under the skin, over the

seat of pain; from a fourth to half a grain is sufficient. The inhalation of chloroform is also efficacious in such cases, and not only relieves the pain, but mitigates the fever. Warm applications are valuable in all cases, and should always be used when more active measures are not deemed necessary. In the advanced stage of the disease, when resolution is tardy, and effusion of serum takes place in the chest, Dr. Hall resorts to free vesication. He has applied the tincture of iodine with very good effects in mild cases, and especially in the pneumonias of children—painting the entire walls of the chest two or three times a day. He has also used a liniment, in the cases of children and delicate females, composed of olive oil, turpentine, and ammonia.

Expectorants, as a rule, are not advisable, Dr. Hall never uses them, except in the advanced stage of the disease, when the bronchial secretion is deficient and the cough troublesome. The position of the patient should be frequently changed in protracted cases, especially in children. Ventilation of the sick chamber should be thorough, and the temperature uniform at about 65° of Fahr.

Art. 34.—*On the Treatment of Hæmoptysis.*

By A. T. H. Waters, M.D., F.R.C.P., Physician to the Liverpool Northern Hospital.

(*British Medical Journal*, March 11.)

Dr. Waters believes that the best remedy we can use, the safest, the most rapid, and the most effectual, is gallic acid. It must be given in full doses—not less than ten grains every hour, or every two, three, or four hours, according to the severity of the case. It is readily taken by patients; it rarely disagrees with the stomach, and is well borne by delicate persons. Dr. Waters has now used it in a large number of cases, and he speaks with confidence of its value. Acetate of lead is another valuable preparation for arresting hæmoptysis; combined with opium it is often of great service. Dr. Waters usually gives it in the form of pill in two or three-grain doses every two, three, or four hours. He has seen very severe cases yield to this treatment.

Sulphuric acid is a good remedy in slight cases of hæmoptysis; and it may be combined with other substances, as quinine, iron, &c., which are given for the general treatment of the disease; it must be given in full doses; but it is not so easily taken, nor is it so well borne by patients as gallic acid. Moreover, as it must be largely diluted to be taken, it necessitates the swallowing of a good deal of liquid, which is generally to be avoided.

Dr. Waters gives a caution in reference to the administration of opium. It is well to bear in mind its tendency to confine the bowels; for, in treating persons who are very weak for hæmoptysis, we may find that when we have checked the hæmorrhage we have great trouble in getting the bowels opened, and the efforts to move them may reproduce the bleeding. In any severe case we must do all we can to stop the hæmorrhage, and opium, either with gallic acid or acetate of lead, is

often useful. It doubtless possesses some styptic powers, and, moreover, is probably of use in sustaining the patient under the influence of the loss of blood. Dr. Waters advises us, however, not to continue its use longer than is absolutely necessary.

His experience of the use of ergot of rye in pulmonary hæmorrhage is not very favourable. He has given the tincture in several cases, but he has not been very satisfied with the results.

In severe cases of hæmoptysis, Dr. Waters always applies ice to the chest. We know that a cold substance applied to the skin will produce a reflex contraction of distant blood-vessels; and ice applied to the chest has been of service in checking hæmoptysis. It should be applied in a bag, and should not be kept on sufficiently long to produce a chill.

Dr. Waters cannot recommend digitalis as a trustworthy remedy in hæmoptysis. He occasionally prescribes dry cupping in hæmoptysis, especially if it be of an active character; but he never fails to give styptics internally at the same time.

With regard to the administration of purgatives, Dr. Waters cautions us against their indiscriminate use in this affection. When we have to deal with tolerably robust individuals we may safely give purgatives, and they will often be of service; but when the hæmorrhage is severe, or the patient in a very exhausted condition, we must be very careful how we further lower him by their administration. It becomes sometimes a very serious question whether the movements necessary for the action of the bowels may not prove injurious by opening a vessel which has recently closed. In some cases the thread on which life appears to hang seems so slight that we dare not allow the slightest movement on the part of the patient, and we are glad that the bowels remain inactive.

Whenever patients show symptoms of exhaustion during the occurrence of hæmoptysis, we need not hesitate to give small doses of stimulants with food at regular intervals. Dr. Waters does not believe that such treatment in anywise tends to increase the hæmorrhage, and it has a beneficial effect in sustaining the patient.

Turpentine is most valuable in hæmorrhage from the bowels, but less so, in Dr. Waters' opinion, in pulmonary hæmorrhage.

With regard to the general management of the patient, he should be kept perfectly quiet, and not allowed any person to be with him except his nurse. His room should be kept cool and well ventilated, and he should take no other food than milk and beef-tea, in small quantities and iced. Thirst will often be complained of; this is best relieved by small lumps of ice. Large draughts of iced-water, and everything likely to cause vomiting or distension of the stomach, must be specially avoided.

Art. 35.—*The Therapeutics of Hæmoptysis.*

By G. Goddard Rogers, M.D., Physician to the Royal Hospital for Diseases of the Chest, &c.

(*British Medical Journal*, March 18.)

Dr. Waters rightly, in Dr. Rogers's opinion, gives the preference to

gallic acid, next to sulphuric acid, and, failing these, to acetate of lead, in the treatment of hæmoptysis. Dr. Rogers inclines to accept the correctness of Dr. Waters's observations on the unsatisfactory results which follow the use of digitalis in pulmonary hæmorrhage. The City Road Hospital "Pharmacopœia" contains a formula for its administration, but Dr. Rogers has little doubt that to the combination of sulphuric acid and laudanum a great part of its popularity is due. Still, in hæmoptysis depending on a material obstruction in the left heart, he puts great reliance on this drug. Alumen exsiccatum and diluted acetic acid he adds to the list of styptics given by Dr. Waters. So long ago as 1858 Dr. Rogers called attention to the very marked efficacy of the (so-called) tannate of alumina in spitting of blood, and he has never found occasion to look upon it as other than a most valuable styptic. Iron-alum, a sulphate of peroxide of iron and sulphate of ammonia or potash, is perhaps a still more powerful astringent. The dose as set down in the books is rather too large, it being better to begin with three grains than with five. Ruspini's styptic, although there is no mystery attaching to its composition, deserves a passing notice amongst the astringents of extraordinary power.

Art. 36.—*On the Value of the Principal Symptoms presented during the Course of Pneumonic Phthisis.*

By Dr. Tamine-Despalle.

(*Echo Medical et Pharmaceutique Belge*, No. 2, 1871.)

"Fever scarcely shows itself until the middle of the second stage, when the centre of the tubercle commences to break down. It may then continue, and undergo evening, morning and midday exacerbations. The more rapid the breaking down of the tubercle the more the fever approaches to the continued type; on the other hand, this symptom has less value if it be observed only at intervals, and if the repetitions occur in the evening rather than in the morning or at midday.

"When the pulse, hard, slow, and frequent, acquires at the third period the characters of a fever, one must expect an unfavourable issue, especially if the local symptoms are not in harmony with the general symptoms.

"The following signs lead one to fear a rapid and complete evolution of tubercle:—Œdema of the extremities, a most serious symptom; frequent cough suddenly cutting short a deep inspiration and followed by very nummular expectoration; pectoral pains, exaggerated by pressure over the affected spots; expectoration of compact masses, streaked with blood; panting respiration; rapid emaciation; scanty urine overcharged with lithates; progressive diminution or cessation of the menses; diarrhœa accompanied by colic; increase in the involuntary discharge of seminal fluid; a rapid change in the form of the nails; an altered countenance; coldness of the extremities coinciding with nocturnal perspirations of a penetrating odour coursing along the back, over the chest, the palms of the hands, and the soles of the feet. The saliva and the

gastric juice are changed in their composition and lose their digestive properties; the amount of ptyaline and ferrocyanide of potassium in the saliva is diminished; and also that of the pepsine and lactic acid in the gastric juice. It is presumable also that the intestinal and pancreatic juices, as well as the bile, undergo important chemico-physiological modifications.

"If, after eight or ten days of simple bronchitis whatever may be the stage of the phthisis, the cough become less severe, and the expectorated material less viscid, and the pectoral pains violent, one has to deal with a subacute attack; if the fever become continued whilst all the other signs do not present a greater intensity; the issue of the disease will be so much the more rapid the less coincidence there may be between the general symptoms and the local signs peculiar to the pulmonary lesion. It is necessary, therefore, to look out for the slightest accession of fever, and to be reserved with regard to prognosis.

"Acute pneumo-phthisis lasts from three weeks to six months, rarely for a less period, rarely for a longer one; in the latter case the patient has kept his bed from the first month of the disease.

"There are three varieties of the disease:—

"1. Severe rapid pneumo-phthisis, carrying off the patient in the course of a few weeks.

"2. Mixed pneumo-phthisis, in which life is prolonged to some date between three and six months.

"3. Prolonged pneumo-phthisis, which passes through its stages in two or three years, sometimes more.

"4. One may likewise add that form of pneumo-phthisis in which the disease is stationary for several years, and finally terminates suddenly in a subacute stage.

Art. 37.—*Pathology of Pulmonary Phthisis.*

By William H. Draper, M.D.

(*The Medical Record*, November 1.)

At a meeting of the New York Academy of Medicine, on October 6th, Dr. Draper read a scientific and voluminous paper on "Pathology of Pulmonary Phthisis," of which the following is an abstract:—

It is a common observation that chemical medicine adapts itself very gradually to new discoveries in Pathology. The old principles which have guided the practitioner at the bedside, and formed the stand-point from which he has watched the origin and measured the progress of disease, are abandoned always with reluctance, and every innovation must make its way against time-honoured prejudices by the force of positive demonstration or the results of irrefutable experience. That the time has come to modify seriously the doctrines of Laennec and Louis in regard to the pathology of pulmonary phthisis, is the conviction of many who have been forced, by observation and experience in the light of modern pathology, to seek a more satisfactory explanation of many of the phenomena in the chemical history of consumption, as well as of many of the changes in its morbid anatomy.

It was doubtless this conviction that induced our worthy president to suggest this subject to the Academy for discussion; and while I recognise with him the interest and great practical importance of the questions it involves, I cannot but express my regret that the opening of the discussion had not fallen to some more experienced member of the Academy. You may perhaps be reconciled to the choice of the president by regarding me as a sort of junior counsel put forward to state the case for the advocates of the new views, while you wait patiently for the arguments of the older and more learned counsellors to whom we look for judicial opinions upon vexed questions.

Before entering upon an explanation of the modern views of the pathology of pulmonary phthisis, it will be important to the proper development of the subject to review the opinions of the earlier authorities on this disease, especially as these opinions are still widely held, and by many stoutly defended.

The word *phthisis* was originally applied to any form of disease that was accompanied by rapid wasting of the body, and its first limitation was its restriction to the diseases of the respiratory organs which were associated with emaciation.

The term *tubercle* was formerly applied to any little nodule or tumour, whatever its nature or location; and though still in common use in its liberal sense, its specific application to the peculiar variety of nodosities developed in pulmonary phthisis dates from the beginning of the present century. . . . .

In the early discussions as to the nature of tubercle, the great source of confusion lay in the vicious use of the word tubercle, Laennec and his followers insisting that the transparent miliary granulation and the yellow infiltrated masses were only different forms of the same specific substance, and that the infiltrations could not be the result of inflammation because the granulations were not; while Broussais and his school, accepting the same broad signification which Laennec had given to tubercle, claimed that the yellow cheesy masses were certainly inflammatory, and therefore the granulations must be. Laennec protested that whenever evidences of inflammation existed in pulmonary phthisis they were secondary to the irritation produced by the deposit of tubercle, and hence he denied that acute or chronic pneumonia, bronchitis, or pleurisy, ever terminated in tuberculosis. . . . .

Virchow first recognised the fact that the miliary granulation found in tuberculous subjects, either alone or in connexion with inflammatory products, is a new formation of cellular nature, and, to quote his own description, "generally has its origin, like all other new formations, in connective tissue; and which, when it has reached a certain degree of development, constitutes a minute knot within this tissue. This knot, when it is at the surface, projects in the form of a little protuberance, and consists throughout its whole mass of small uni- or multinuclear cells." What especially characterizes this formation is the fact that it is extremely rich in nuclei, so that, when it is examined as it lies imbedded in the tissue which invests it, at the first glance there seems to be scarcely anything else than nuclei. But upon isolating the constituents of the mass, either very small cells, with one nucleus are found, or larger cells, containing from 12 to 24 small nuclei. This structure,

which in its development is comparatively more nearly related to pus, inasmuch as it has the smallest nuclei and relatively the smallest cells, is distinguished from all the more highly organized forms of cancer, cancroid and sarcoma, by the circumstance that these contain large, voluminous corpuscles with highly-developed nuclei and nucleoli. Tubercle, on the contrary, is always a pitiful production—a new formation, from its very outset miserable. In its earliest stages, according to Virchow, these granulations are traversed by blood-vessels; but after a time by the pressure of the innumerable cells, the vessels are obliterated, and the process of degeneration begins in the centre, as indicated by a yellow spot. This is the commencement of the cheesy metamorphosis.

These observations of Virchow first established clear and defined ideas as to the nature of the tubercle, so far as its histological elements were concerned. They restricted the true tubercle to the miliary granulation, the true, essential anatomical element of tuberculosis. They differentiated this neoplasm from the crude tubercles and grey and yellow infiltrations, with which it had previously been confounded, and so led the way to a more rational and satisfactory explanation of the pathology of pulmonary phthisis.

In regard to the precise location of the tuberculous deposits, recent investigations have defined with more precision the exact seat of the true tubercle, and show that it is commonly developed in the adventitia, or the laminæ of connective tissue immediately surrounding the blood-vessels. According to Herard and Cornil, the miliary tubercles in the lungs develop themselves in the connective tissue which constitutes the walls of the lobules, and especially around the blood-vessels and capillaries which surround the bronchi. As the mass enlarges through the active proliferation of nuclei and cells, it projects into the alveoli and encroaches upon the tunica of the finer bronchi, and so produces the appearance of having been developed within the bronchus or air-vesicle. Another effect of the rapid proliferation is to compress the blood-vessels around which they form, and finally obliterating them, to prepare the way for the degeneration of the granulation and the destructive ulceration of the surrounding tissue. . . . .

It would be a profitless task to review the many vague hypotheses which have been proposed from time to time to explain the origin of tubercle. It must be confessed that we are not made much wiser when we are told by Rokitansky, that "tubercle is in the broadest sense an exudate of solidified protein substances (albumen and fibrin)," &c., &c. Nor is it plain that we have solved the mystery of tuberculosis when we say with Simon that tubercle is that unorganizable deposit which occurs in various organs of the body, under the influence of a peculiar constitutional state which we call the scrofulous diathesis.

After recounting the experiments that have been made within the past few years in the *artificial production of tubercle by inoculation*, by Jenner, Villemin, Andrew Clark, Burdon, Sanderson, Wilson Fox, Waldenburg, and others, Dr. Draper sums up the subjoined conclusions which the facts developed justify:—

1st. That tubercle is anatomically a neoplasm, and like all heterologous tissues, has a physiological type. That the physiological type of tubercle is the lymphatic tissue.

2nd. That the typical tubercle is the miliary granulation, and that the so-called crude and yellow infiltrated forms are examples of the degenerative stage or cheesy transformation, to which not only tubercle, but all heterologous growths and inflammatory products are liable.

3rd. That the seat of tubercle is in the connective tissue, especially in the adventitia of the blood-vessels, in the walls of the lymphatic vessels, and the parenchyma of the lymphatic glands.

4th. That tubercle is not a specific morbid product, in the sense in which the syphilitic virus is, inasmuch as it may be produced by the inoculation of a variety of substances of animal, vegetable, and mineral origin, and that the only specificness which it exhibits is an inherited or acquired proclivity, on the part of the individual subject to it, to the development of the neoplasm, as the result of the absorption by the blood-vessels or lymphatics of such morbid products as it has been demonstrated will produce tuberculosis by inoculation in animals. . . . .

It must be confessed, we think, that the advances in pathological anatomy tend to illustrate and confirm the doctrines first enunciated by Broussais—the demonstration of the true nature of caseous deposits, that they were something very different from tubercle, and nothing more nor less than progressive metamorphosis to which tubercle in common with other heterologous and inflammatory products was liable, proved that pulmonary phthisis was not necessarily tubercular. This, then, is the first, and perhaps practically most important, modification produced in the generally accepted pathology of pulmonary phthisis by the more intelligent views of the nature of tubercle, for which we are indebted to microscopical research. . . . .

Niemeyer truly says, in the opening of his lectures on phthisis, that "no doctrine in the whole field of pathology is in such urgent need of reform as that of pulmonary phthisis," and for the reason that clinical medicine is for the most part still based on the theories of Laennec, that tubercle is the starting-point of every case of phthisis, and that all the condensation and destructive processes are due either to the accumulation and softening of this substance, or to the secondary inflammation which they excite.

Now that the source of error and confusion is removed, and the true tubercle is distinguished from the false, it is time to recognise the fact which Broussais, Andral, Cruveilhier, Addison, and others insisted upon—that phthisis is often a purely pulmonic process, having its foundation in pneumonia and bronchial catarrh and hæmorrhage.

Laennec thought tubercle was a specific product: the experiments on animals have shown that it is not specific, inasmuch as it may be produced by the inoculation of a great variety of substances. Laennec thought that tuberculosis was a primary affection: the history of the tuberculization of animals goes to show that it is a secondary process.

The idea that tubercle is the effect of a certain so-called blood crasis was distinctly promulgated by Dittrich. His theory was that all diseases had a tendency to disturb the balance between repair and waste, and that whenever the waste was in excess, the products were accumulated in the blood, and contaminated it; that the accumulation of fibrin in the blood was the most important and serious of these contaminations, and that one of the secondary diseases to which it led was tuberculosis—

so he explained the sequence of tuberculosis after the acute or chronic diseases of the lungs and other organs.

Buhl's theory of tuberculosis, based upon a series of post-mortem examinations of persons dying of pulmonary phthisis, published in 1857, is more specific, and especially interesting in view of the apparent confirmation it receives from the experiments on animals. Buhl divides cases of pulmonary consumption into three varieties :—1. *Acute miliary tuberculosis.* 2. *Acute infiltration.* 3. *Chronic tuberculosis.*

This author sums up the following facts as proofs of the resorptive origin of miliary tuberculosis :

1st. "The almost constant presence in tuberculous lungs of yellow tubercles and cavities."

2nd. "These masses are not encapsulated, and the cavities are not everywhere bounded by thick fibroid connective tissue; therefore, resorption can easily occur."

3rd. "The largest collection of miliary tubercle is at first soft, gray, and situated in the immediate neighbourhood of the infecting mass."

4th. The circumstance of "the eccentric progress by the formation of new miliary tubercles, in such a way that the oldest and largest tubercles which have already become yellow or farther changed by shrinking or pigmentation are nearest the infecting mass, while the youngest, smallest, soft, grey, thickly-sown tubercles are farthest from it."

5th. The fact of "the possible occurrence of grey and at the same time miliary tubercles in almost every parenchymatous organ and serous membrane, even if there were only one resorptive mass in the body."

6th. "The clinical and anatomical appearance of an infectious disease, and especially the anatomical appearance of a specific infectious disease."

7th. "The situation of the single grey miliary granulations in those tissue-intervals which belong to the lymphatic vessels."

Buhl's *second* variety of pulmonary consumption, or acute infiltration, he compares with diphtheria, and calls it "lobular diphtheritic pneumonia." This process, he believes, has nothing in common with miliary tuberculosis, but may give rise to it. His *third* variety or chronic tuberculosis, he thinks may arise from the second, but may also arise from an inflammatory or croupous capillary bronchitis.

Buhl believes in the specific nature of the tubercle virus, and applies the term tubercle, as Laennic did, to the various forms of new morbid products found in the lungs of phthisical patients. He further argues the specific nature of the tubercle virus by stating his belief that it is transmitted in the human ovum and semen, in this way explaining the hereditary nature of the disease.

The almost invariable coincidence of miliary tubercles with caseous masses has also been insisted upon by C. Hofmann. He found these caseous masses not only in the lung, but in the urino-genital organs, in lymphatic glands, and in the products of suppurative peritonitis. Hofmann does not accept Buhl's idea of a specific tubercle virus in these masses, reasoning that their origin is too diverse, and that their common quality of giving rise to miliary granulations must be due rather to some common physical peculiarity.

Niemeyer, in accepting Buhl's theory of the dependence of miliary tuberculosis upon the presence of caseous masses, is guarded in his

statement as to the precise nature of this association. He inclines to the view that the tubercular granulations are not due to an infection of the blood by a tubercle virus, but rather to a local influence, perhaps, acting through the lymphatic vessels.

In answer to the argument in favour of tuberculosis being a general disease, that the granulations are sometimes found extensively diffused through the parenchymatous organs and on serous membranes, he replies that the territories of granulations may be due to numerous foci of resorption. Thus he believes the tubercle of the peritoneum may very often be traced to caseous ulcerations of the intestine, just as those in the pleura or in the lung may arise from a neighbouring caseous mass. . . . .

We have thus considered the theory of tuberculosis as a resorptive disease, and as having its origin in caseous nodules; it remains for us, in conclusion, to consider the conditions under which caseous masses are liable to be produced.

Niemeyer, in his monograph on "Pulmonary Phthisis," states that "all forms of pneumonia lead, though not with the same frequency, to caseous infiltration, and the formation of cavities in the lungs; and that in cases having this termination, the danger of tubercular complication is exactly the same, whether the caseous products and the cavities are the result of a croupal or catarrhal pneumonia, and whether the latter has had an acute origin or a chronic development."

This statement requires some explanation. By croupous pneumonia, Niemeyer means the ordinary lobar pneumonia—the acute, primary disease, in which he says the exudations are analogous to those of croup; and by catarrhal pneumonia he signifies the lobular pneumonia—the sub-acute, and generally consecutive disease, which is commonly disseminated through both lungs, and is secondary to acute bronchitis, or the bronchial catarrhs that complicate eruptive fevers, whooping-cough, and influenza. . . . .

The rapidity with which caseous infiltration of the lung takes place as the result of the pneumonic processes varies considerably, and is due probably, as Niemeyer states, to the degree of distension which the alveoli suffer as a consequence of the cell proliferation. If they are suddenly and intensely infarcted, the pressure exerted by the cells upon each other and upon the surrounding blood-vessels induces a rapid necrosis and the formation of cavities. This rapid infiltration and consequent softening constitute the pathological conditions of the form of phthisis commonly described as "galloping consumption."

When the accumulation of cells is more gradual, the lobular condensations undergo a slower atrophy, and may finally liquefy and be absorbed, or the organic matters may be absorbed and a carbonaceous concretion be left behind. While these changes are going on, an active proliferation usually occurs in the surrounding connective tissue. As this new tissue shrinks, the neighbouring alveoli are obliterated, and the volume of the lung diminishes. This is followed by one or both of two inevitable effects—a sinking in of the walls of the chest, and a distension of the bronchi, the latter constituting the oblong or round caverns which are so characteristic of chronic phthisis.

What has been said in regard to the formation of caseous masses in

the lungs, and their consequences, embraces a description of the sole pathological changes in many cases of pulmonary phthisis, and, according to the present views of the nature of true tubercle, it must be admitted that such cases are not examples of tuberculous phthisis. The changes, however, that we have described as the consequences of pneumonic inflammation are often complicated with the presence of the true tuberculous granulations, and the relation of these to the caseous infiltrations is the question about which pathologists have differed from the time of Laennec and Broussais to the present. Are the caseous masses and cavities secondary to the eruption of miliary granulations, or is the eruption of miliary granulations secondary to the formation of the caseous masses? In the possession of data necessary to the decision of this question, it must be admitted that the modern pathologists have the advantage of the disciples of Laennec.

Laennec's theory of the identity of isolated and infiltrated tubercle was based upon their common tendency to cheesy transformation. The doctrine of the diversity of the miliary granulation and caseous masses is based upon the morphological distinctions revealed by the microscope. Laennec's theory, that the primary and unique anatomical element in all forms of consumption is tubercle, was a corollary, from the confounding of essentially different substances under the name of tubercle. . . . .

The doctrine of the modern pathologists, that the miliary granulation is the sequence and result of the resorption of caseous masses, seems to be justified by the experimental genesis of miliary tubercle in the inoculation of the lower animals.

The relation of tuberculosis of the lungs to caseous lymphatic glands, and to caseous masses of diverse origin in other parts of the body, is established not only by experiments upon animals, but also by clinical observation. Another point of great interest upon which modern pathology has reversed the doctrine of Laennec and his school, is the relation of hæmoptysis to pulmonary tuberculosis. Laennec contended that it was always the sequence of tuberculous deposit; while modern observation makes it the precursor of caseous masses, and, through them, of tuberculosis.

In conclusion, we have only to say that the great interest which has of late years been awakened in the pathology of pulmonary phthisis, is more than justified by the great practical importance of the results already obtained. If caseous masses are often the sequence of "neglected or ill-treated catarrhs," especially in the feeble and ill-nourished, then certainly we have reason to expect that the frequency of this sequence may be diminished by natural treatment; and if tuberculosis is not a specific disease, but a secondary accident, the result of a resorption of corpuscular elements from the detritus of caseous masses, then there is at least ground for the hope that the ravages of this dread disease may be measurably controlled by an intelligent prophylaxis.

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Art. 38.—*Pulmonary Phthisis.*

By Austin Flint, M.D.

(*The Medical Record*, November 15.)

At a meeting of the New York Academy of Medicine, on Oct. 20th, Dr. Austin Flint, sen., read an instructive paper on "Recent Views in Relation to Pulmonary Tuberculosis," of which the following is an abstract:—

The questions to be thus considered may be divided into those relating, first, to the tuberculous products, and to tuberculization; second, to the causation of pulmonary tuberculosis; and third, to the treatment.

The speaker stated clearly the prominent late views relating to the morbid products which for more than half a century have been called tuberculous, and to tuberculization—these views were from a histological stand-point, and spoke as follows:—

To discuss their merits might seem presumptuous in one who is not a practical histologist. But the great majority of those who are expected either to adopt or reject views founded on histological data are not, and cannot be, workers with the microscope. They cannot be expected to confirm or correct these data by their own observations. They must be content to compare the testimony of different observers, and judge for themselves according to their confidence in the observers. They may be competent, however, to exercise their judgment as to whether the data are sufficient to warrant the views which are thereon based. They may even be better qualified to do this than those who draw deductions from original observations, for experience has shown abundantly that microscopical observations are peculiarly exposed to error from the bias of speculation or preconceived convictions.

With respect to purely histological points there seems to be, for the most part, agreement among practical histologists. Different microscopical observers do not differ as to the appearances under the microscope. But there is not, as has been seen, the same agreement concerning the conclusions: there is much discrepancy in the interpretation of the appearances. Virchow and the disciples of the "cellular pathology" interpret certain anatomical elements to mean proliferation of normal cells. Robin, Bennett, and others, explain their production by a spontaneous generation. The cheesy metamorphosis, tyrosis, or granulo-fatty degeneration, of which so much has been said of late years, is perhaps inferred rather than proved; it is a mooted point as to the inflammatory or non-inflammatory character of the tuberculous granulations now recognised by many as the only true tubercles. Admitting that the so-called tuberculous infiltration is an inflammatory product, it is not certain that the primary process is an inflammation; at all events, there is room here for doubt and discussion; the relationship between the true products just named is a topic for directly opposite opinions. It is plain that the revelations of the microscope, valuable as they are, have not, as yet, been sufficient to settle these and other pathological questions. Much stress is laid by recent observers on the essential difference between these two products, yet one of the most distinguished of those engaged in the study of tubercle, namely, Villemin, declares that he "thinks" (to quote his own words) "there is ground for re-

turning to the ideas of the great Laennec and the judicious Andral in behalf of the unity of tuberculosis."

It is deemed a highly important object, as a result of late histological researches, to call the affection heretofore known as infiltrated tubercle, a pneumonia. Let it be granted that there is a strict pathological propriety in this, the practical advantage which is gained is not very apparent. The long-established points in morbid anatomy which distinguish this affection from other forms of pneumonia remain unchanged. Here is a product which is absorbed with great difficulty, if at all, whereas the intra-vesicular product in ordinary pneumonia is generally, and often rapidly, removed by absorption. The former leads to abscesses, and to cavities which very rarely cicatrize; the latter seldom ends in abscesses, and when they occur the cavities resulting from them tend to cicatrization. The tuberculous pneumonia is a bilateral affection, the instances in which it is confined to one lung being rare exceptions to the rule; the reverse is true of ordinary pneumonia. On the other hand, contrast the tuberculous pneumonia with the chronic form in which the morbid product is interstitial, and these points of difference are not less striking. If it be resolved to call the affection a pneumonia, some qualifying term, denoting its distinctness of character, is certainly important. The word *cheesy*, or the more refined synonym *caseous*, is objectionable on the ground that for it to have any precision the age and the kind of cheese to which it is analogous should be stated. The name "chronic catarrhal pneumonia" must derive its significance chiefly from the supposition that the pneumonia supervenes upon a bronchitis, which is a supposition, to say the least of it. Tuberculous pneumonia seems the most appropriate term. This term is objected to on the ground that the affection is not always, although often, associated with true tubercles, that is, the grey granulations. To call a pneumonia without tubercles tuberculous would, of course, be a misnomer. The objection is a valid one only in view of the hypothesis that tubercles or granulations are consecutive to, and dependent upon, the pneumonia; the latter, accordingly, existing for a time without, and in some cases not being followed by the former. Niemeyer carries this hypothesis so far as to say that "the greatest danger for the majority of consumptives is, *they are apt to become tuberculous*"—a curious statement when it is considered that, assuming the correctness of the hypothesis, to determine whether the pneumonia be or be not associated with tubercles, is confessedly rarely within the grasp of diagnosis. As a concluding remark, in connexion with this division of the subject, the distinctions and names which have lately been introduced can hardly be said to simplify our knowledge of tuberculous disease. I will content myself, in illustration of this remark, with citing the nosological divisions in the late treatise on Pulmonary Phthisis by Hèrard and Cornil, a work of labour and ability, and containing much valuable information.

These authors treat of the following forms of disease as entering into the study of pulmonary phthisis:—

1st. Lobar tuberculous pneumonia; 2nd. Lobular tuberculous pneumonia; 3rd. Generalized granular phthisis; 4th. Generalized granular phthisis, with pneumonia; 5th. Partial granular phthisis; 6th. Acute or galloping phthisis; 7th. Generalized caseous lobar pneumonia. Into

these seven varieties are resolved the chronic and acute phthisis of other authors.

The Causation of Pulmonary Tuberculosis.—The discovery by Villemin of the inoculability of tubercle stands out in strong relief among the conflicting and perplexing views which have been noticed. The inoculability of tubercle is a positive indubitable fact, which not unlikely will constitute a highly important epoch in the history of tuberculous disease. Connected with this discovery are certain questions not as yet settled. The specific character of tuberculosis is one of these. In other words, does the matter inoculated, when the disease is thus communicated, contain a special virus? Villemin claims that his experiments prove the affirmative to this question, and establish for tuberculous disease a specific character such as belongs to variola, scarlatina, syphilis, and glanders. His work on tuberculous phthisis is a masterly effort to show this by collateral evidence, as well as by the experiments establishing the inoculability of the disease. On the other hand, Lebert, Wryss, Waldenburg, in Germany, Colin, in France, and Andrew Clarke, Simon, Sanderson, and Wilson Fox, in England, have made experiments which appear to show that inoculation with other than tuberculous products (using this term in its widest sense) is sometimes followed by the development of tubercles in the lungs and different organs. Villemin claims that in these experiments either the products furnishing the matter for inoculation contained the tuberculous virus, or the products following the inoculation were not true tubercles. The settlement of this point by continued researches is evidently of much importance in its bearing on the question as to the specific character of the disease.

From the fact of inoculability springs another question, which need only be stated for its practical importance to be sufficiently obvious. Inoculation proves contagiousness in the strict and proper adaptation of the latter term; but is not the disease communicable by infection? This is the question now referred to. May not material emanations from tuberculous patients be received into the air-passages, and the disease in this way produced? Contagion does not prove infection—a fact of which syphilis is an exemplification—but taking into view morbid emanations which must be contained in the expired breath of patients affected with tuberculous disease, the possibility, if not probability, of its being sometimes thus communicated becomes an important point for renewed clinical study. And, pending the accumulation and investigation of facts, it is certainly a wise precaution to enjoin upon healthy persons, and those already tuberculous, to avoid, as far as practicable, an atmosphere which, from defective ventilation or the congregation of phthisical patients, or both, must abound in the suspected emanations.

From the time of Laennec a tuberculous diathesis has been supposed to be largely involved in the causation of pulmonary tuberculosis; but, according to the views of some distinguished writers of the present day, this diathetic agency has been greatly overestimated. Villemin repudiates altogether the existence of a diathesis which is independent of the introduction within the system of a special virus. Others, for example Niemeyer, while they do not ignore a constitutional predisposition, think that its causative influence is vastly less than has been supposed,

and that a proportionately greater agency is exerted by local exciting causes. The advocates of this view consider that an active, special diathesis does not exist, but only a certain amount of vulnerability (to use a word of recent application) arising from an enfeebled power of resistance to the local causes of disease. This view, in fact, almost does away with a diathetic influence, since the term diathesis denotes a predisposition to a particular form of disease. It has been hitherto believed that tuberculous disease is developed chiefly, and sometimes even exclusively, as a result of a special, determining, constitutional, morbid condition. This is the idea attached to the term tuberculous diathesis. Local exciting causes have been regarded as of secondary importance, being never, in themselves, sufficient to produce the disease, and in many cases not being included in the causation. Here are questions of great practical importance. The teachings of Niemeyer are in strong contrast with the views which have been, and are still, generally held by physicians; and it is needless to call attention to their direct and important bearing on treatment.

These views are to be sustained, or otherwise, not by arguments, but by evidence derived from clinical experience. Is it true that tuberculous infiltration, or pneumonia, as determined by physical signs, is preceded generally or frequently by bronchitis? The answer to this question in the negative purports to be based on clinical facts. So far as one can judge from publications, the affirmative, if not merely a speculative or rational conclusion, is supported, as yet, only by the impressions formed on a limited experience.

The latter answer is a revival of an old belief which has never been eliminated from the popular mind. If the question is to be settled anew, this can only be done fairly by a fresh appeal to clinical observation. It is practicable to settle the question in that way. The existence or non-existence of bronchitis, or a bronchial catarrh, antecedently to the presence of signs denoting tuberculous solidification of lung, is a point which, if the opportunity be offered, a competent clinical observer can determine in individual cases. Until the question is settled in the only way in which it can be settled, let us not accept the new view because it is affirmed, or because it is thought to harmonize with other views.

The remarks just made are alike applicable to the question whether hæmoptysis stands in a causative relation to tuberculous disease. The affirmation of such a relation, no matter by whom made, and the reasonableness of it, or its consistency with other views, are of no moment except in so far as they are sustained by clinical evidence. The question is to be settled by determining whether hæmoptysis, occurring when tuberculous disease does not exist, is followed by this disease in a proportion of cases sufficiently large to show a relation of causation. Clinical observation is competent to determine this point, and, until this is done, it is the part of prudence and philosophy to hold the mind in abeyance with regard to the adoption of this, as of the other of the views just stated.

The Treatment of Pulmonary Tuberculosis.—Within the recollection of the older physicians of the present day, the treatment of pulmonary tuberculosis has undergone an entire change. The measures in vogue

thirty or forty years ago, were those which have been known as antiphlogistic, namely, venesection and local blood-letting, mercurialization, and active counter-irritation. With these were conjoined a restricted diet and confinement within doors.

Impartial observers who are able to compare the success of treatment then and now, must bear testimony to a great improvement. The proportion of recoveries is certainly much greater. When recovery does not take place, the disease is much oftener non-progressive, and, when not stationary, its progress is more slow. Death is not so often preceded by a long period of confinement to the bed and suffering from extreme debility and bed sores.

In these respects the contrast is very striking, and it is fair to attribute it to the change in treatment. Of late years the so-called antiphlogistic measures have fallen into disuse; and, in place of these, tonic remedies and alcoholic stimulants have been much employed, together with cod-liver oil, a generous diet, and life out of doors.

It is not easy to determine how far the improvement in the success of treatment is due to the abandonment of measures formerly employed, and how far to those which have been substituted, but that the former were injurious can hardly be doubted. Of the measures now in vogue, there may be differences of opinion with reference to the relative importance of those which are, in the strict sense of the term, therapeutical, and those which come under the head of diet and regimen; but I think few are to be found who do not regard the latter as vastly more important than the former. It is by no means uncommon for cases to be treated exclusively by hygienic measures.

Now, it is proposed to return to some of the measures which had become almost obsolete in practice.

In the recent treatises by Hèrard and Cornil, and by Niemeyer, blood-letting is advocated as a measure important in certain cases of the common form of pulmonary tuberculosis, namely, that known as infiltrated tubercle. In the first-named of these two treatises, even venesection is recommended, and in the second local bleeding by cups or leeches. Hèrard and Cornil advocate the use of the tartrate of antimony. They advise confinement within doors during the winter season. Niemeyer goes further, and advises confinement to the bed whenever febrile phenomena are present. These measures of treatment are based on the pathological view which considers infiltrated tubercle as a form of pneumonia; they are employed, in other words, as antiphlogistic measures. Hèrard and Cornil state that the therapeutical indications are nearly the same as in cases of frank pneumonia; and Niemeyer states as a reason for giving to the affection the name "chronic catarrhal pneumonia," that thereby "its prophylaxis and therapeusis are promoted."

This new view of the treatment of pulmonary tuberculosis seems to me to illustrate the tendency to engraft therapeutics on pathology. The disease, as it is generally presented in practice, is a pneumonia, and it therefore claims the treatment which is supposed to be appropriate to pneumonic inflammation.

But this is a *non sequitur*, according to the general truth stated in entering on this division of the subject. It does not follow that these

measures are indicated, granting that the affection is a form of pneumonia. The only true basis of therapeutics here, as elsewhere, is in clinical experience. Has clinical observation been correct in leading to the conclusion that these measures of treatment are injudicious, at a time when tuberculization was generally thought to be a non-inflammatory process? then, assuredly, this conclusion is not upset by proving that the process is an inflammation. The lessons of experience are not to be subverted by changing the name tuberculous infiltration to catarrhal or tuberculous pneumonia.

It is not, then, an unreasonable scepticism, or conservatism, to protest against the adoption of this new view of treatment on mere pathological grounds. We are bound, as it seems to me, not to adopt it until it is substantiated by a collection of facts obtained by experimental observation. We are bound to adopt it whenever it is so substantiated. They who are fairly convinced of the propriety of these measures, as the result of speculation or reasoning, will not be likely to hesitate in employing them; but there are many who cannot at present conscientiously submit them to the test of experimentation.

The pathological opinion stated under the head of causation (and which I believe may be proved to be erroneous), that pulmonary consumption is a sequel of bronchitis, has an important bearing on the treatment. If this opinion be correct, it is a rational inference that it is a special object of treatment to prevent the recurrence of attacks of bronchitis, and that therapeutical measures are to be specially directed to bronchial inflammation. Of those who have had a large experience in the management of the disease in this country, not a few attach most importance to out-of-door life, and enjoin upon patients not to be deterred from carrying out this hygienic measure by apprehensions of "taking cold." It is common to assure patients that the existence of pulmonary tuberculosis does not render them more liable to attacks of bronchitis, and, if attacks occur, the tuberculous affection is not thereby increased. These statements, which date from the researches of Laennec and Louis, are not in accordance with popular belief, a fact which Niemeyer thinks is very fortunate, considering, as he does, the latter to be the more correct view. This view, there is reason to believe, is based on the supposed causative connexion between bronchitis and consumption, rather than on clinical experience.

ART. 39.—*On the Duration of Phthisis Pulmonalis, and on certain Conditions which Influence it.**

By C. THEODORE WILLIAMS, M.D. Oxon., Assistant-Physician to the Hospital for Consumption and Diseases of the Chest, Brompton.

(*The Lancet*, January 10.)

The author commences by stating that he uses the term "phthisis" in a broad sense, to signify consuming pulmonary disease, attended

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* Abstract of a Paper read at a Meeting of the Royal Medical and Chirurgical Society, January 10.

by a well-known group of symptoms; and includes under it, besides tubercle, all states of the lung which tend to excavation and caseation.

The object of the present paper is to give some account of a thousand cases of phthisis selected from the private practice of Dr. Williams and the author, and to deduce the amount of influence which the conditions of age, sex, family, predisposition, and origin exercised on the duration of the malady. The patients belonged chiefly to the upper and middle classes. The cases have been taken from the records of those who first consulted Dr. Williams between 1842 and 1864, a period of twenty-two years; the ground of selection being that each case has been at least one year under observation.

Sex.—The author, after explaining how the cases were recorded and exhibiting certain tables, states that 625 of the thousand were males and 375 females.

Age.—Taking the sexes collectively, 41 per cent. were attacked between twenty and thirty, 25 per cent. between thirty and forty, 19½ per cent. under twenty, and 13¾ above forty. Considerable difference was found to exist between the two sexes as to the time of attack. Between twenty and thirty, the most common period of attack for both sexes, about 7 per cent. more females were attacked than males; and, again, between ten and twenty, 11¾ per cent. more. On the other hand, after thirty, the reverse was the case. Between thirty and forty, the males exceeded the females by 11½ per cent.; and above forty, by 6 per cent. The average age when attacked was, for the males, twenty-nine years and a half; for the females, twenty-six years.

Family predisposition.—This term is substituted for "hereditary predisposition," in order to include brothers and sisters and first cousins in addition to those of the preceding generation; the principle being to include as instances of disease in a family all near relations derivable from a common stock. Family predisposition was traced in 48 per cent. of the patients: in 43 per cent. of the males, and 57 per cent. of the females. In the particulars which are given it is noted that nearly half of the cases had only brothers and sisters affected.

Origin and first symptoms.—In 315 cases, phthisis originated in, or followed closely after, the following diseases—viz., pleurisy and pleuro-pneumonia (143), bronchitis (118), asthma, scrofulous abscesses, fistula, whooping-cough, croup, scarlatina, measles, continued fevers, peritonitis, malformations of the chest, and injuries: 26½ per cent. of the whole number of cases were traced to inflammatory attacks (pleurisy, pleuro-pneumonia, and bronchitis); and of these patients, 14·2 per cent. were free from any suspicion of family predisposition. The origin of phthisis from inflammatory attacks is then dwelt on, and the symptoms indicating the conversion of pleuro-pneumonia and of bronchitis into phthisis sketched, and the more general recognition by medical men of their common occurrence among both upper and lower classes is strongly urged.

Hæmoptysis was present in 57 per cent. of the patients.

State of lungs.—In describing the condition of the lungs, Dr. Williams explains why he adopts the classification of *stages*, and what extent of disease each stage is intended to include. In none of the cases is the evidence of physical signs alone accepted; in all it is amply

confirmed by clinical symptoms. Two-thirds of the patients were in the first stage at first visit, 18 per cent. in the second, and 14½ per cent. in the third; 14 cases presenting the signs of other diseases on which those of consumption shortly supervened. One hundred and ninety-eight patients are ascertained to have died; the mortality of those who came in the third stage being about double that of those who came in the first. The average duration of life among the 198 who died was seven years and eight months and three-quarters; 21 of whom lived from fifteen to twenty-eight years after first attack. Among the 802 living patients, the average is at present eight years and two months and a quarter; 246 have lived more than ten years, 65 more than twenty, 2 more than thirty, and 1 more than forty years.

An account of the present state of these patients is then given, and it is shown that 72 per cent. have regained their health sufficiently to follow their occupations; 28 per cent. are still invalids.

Dr. Williams then discusses the views of Louis, Bayle, Laennec, Andral, Fuller, Pollock, and other authorities as to the duration of phthisis, and attributes the long duration of the present cases to—(1) the early detection of the disease; (2) the perseverance with which the patients carried out the various healing measures recommended to them, whether medicinal, hygienic, or climatic. The influence of age and sex on duration are next considered; and on these points the author's statistics show that—(1) the later the time of attack the longer was the duration, this being more marked among the males than among the females; (2) that females are, on an average, attacked four years earlier than males; and (3) that among them the duration of the disease is one year and a-half shorter, and the average age reached is five years and a-half less than among males.

The conclusions as to the effect of family predisposition on duration are (1) that it does not directly limit the duration of the disease; (2) that it precipitates the onset of the disease, thus shortening the duration of life; (3) that it affects females more than males.

The influence of the inflammatory origin on the duration of phthisis is next considered, and the author concludes that cases arising from pleurisy or pleuro-pneumonia enjoy a longer duration than the average, such extension amounting to at least a year and a-half or two years.

Art. 40.—*"Is it Proper for Consumptives to Marry?"*

By Charles J. B. Williams, M.D., F.R.S.

(*British Medical Journal*, February 18.)

Holding, as Dr. Williams does, that consumption in its widest sense—including not only cases of distinct tuberculosis, but those also of caseous pneumonia and chronic inflammation, which are only different forms and degrees of the same malady—is a disease of degeneration and decay, it can hardly be supposed that he should generally recommend consumptives, with the seeds of decay in them, either to waste their remaining stamina by sexual indulgence, or to incur the risk of

unhealthy propagation from their own decaying stock; and yet he has advised many a consumptive to marry, and in numerous instances the result has been happy and fruitful.

For a patient in *confirmed* or *active* consumption to marry, could never be advised by any rational physician, on either physical or moral grounds. Both reason and experience forbid such a step, as fraught with perils and penalties, present and future.

It is different with many of the now numerous class of cases of *arrested or limited disease*, in whom the bodily functions are active and vigorous, and in whom there is a probability of life for many years under *favourable circumstances*. Among these favourable circumstances may often be counted the increased social and domestic comforts and the enlivening communion and sympathy of a well-assorted and well-regulated married life. To those who have not the gift of continence, and whose affections have been already engaged with the hope of marriage, a single life is one of unnatural restraint and disappointment, injurious to health, and likely enough to accelerate disease and decay. To such, a judicious marriage and the moderate exercise of the sexual functions become a source of bodily health, as well as of mental happiness, the beneficial influence of which can hardly be over-estimated. To such, the new life seems to have a regenerating influence, with increased vitality and energy, extending even to the organic functions of assimilation and nutrition. Dr. Williams believes that these remarks apply to both sexes, including childbearing and lactation in the female. So long as all these processes go on normally, with good and regular feeding and digestion, the maternal organ receives fresh vigour from the quickening influence of fœtal and infantile life; and processes of degeneration and decay are retarded or suspended. So far is correct the common belief that pregnancy and lactation retard the progress of phthisis. But such remarks do not apply to sickly pregnancies, to severe and exhausting confinements, and to excessive or disordered lactation. Such unfortunate contingencies, which cannot always be foreseen, pretty surely impair the vital powers and hasten the progress of decay.

Further, there is a considerable number of consumptive individuals for whom, although the disease be limited and not active, marriage is not desirable. To say, in general terms, that these are *weakly* individuals, does not sufficiently characterize them. Weak they are, both in body and mind; but there is also a nervousness which aggravates the weakness and adds to sensibilities and sufferings. The weakness extends to the sexual function; and although, unfortunately, it does not extinguish desire, it renders the exercise of that function harassing and exhausting. To such persons, married life would prove a perpetual snare and worry; and their safest course is to cultivate the grace of continence in single blessedness.

The apprehension of procreating unhealthy children is an objection more valid with physicians and friends than with the consumptive himself when his affections are engaged; and we are bound to consider that its weight varies also with circumstances. In predicating anything concerning a future generation, it must be borne in mind that we can deal only in terms of probability; and to give them numerical

value would require larger statistics than any yet available. Although our experience abounds in examples of children born of consumptive parents being unhealthy, and sooner or later falling victims to some form of the disease, yet the exceptions are numerous also, and prove the power of young life to countervail any inherited proclivity to decay.

Guided by general principles and experience, we may well warn all consumptives born of one or both consumptive parents, or having several blood-relatives consumptive, that there will be great risk of their own children proving consumptive also, and that the risk is further increased when a consumptive marries into another consumptive family; and on this consideration, as well as for their own sakes, we cannot sanction the union of such consumptive persons.

On the other hand, consumptives whose malady originated in an inflammatory attack, without any clear history of family taint, and whose present condition is that of arrested disease, with good general health, need have no unusual solicitude as to the healthiness of their progeny, if due care be taken with their hygienic and dietetic management. In this respect, as well as in the general treatment of consumptives, the affluent might have a better chance than those in straitened circumstances; for change of air, a salubrious residence, and a variety in the best kinds of food, are potent but expensive means for the restoration and preservation of health. But the indocility and caprices of the affluent often deprive them of their advantages; and, even when they seek advice, they too commonly are guided by their own inclinations as to how far they will follow it.

Art. 41.—*Ought Consumptives to Marry?*

By Robert Barnes, M.D., Obstetric Physician, and Lecturer on Midwifery and Diseases of Women and Children, at St. Thomas's Hospital.

(*British Medical Journal*, February 25.)

The author's observation tells strongly on the negative or prohibitory side.

"1. I have now seen," Dr. Barnes writes, "a good many very sad instances where young men and women in whom consumption was either latent, stationary, or slowly progressing, have sunk rapidly after being 'engaged,' or after being married. The chance of recovery, or even of not getting worse, of a tuberculous sufferer, depends upon observing the strictest hygienic rules; and of these rules a main one is the preservation of mental and emotional calm.

"2. I have seen the effect of pregnancy and labour upon many consumptive women. I have no hesitation in saying that there never was a greater fallacy than that which affirms that pregnancy is antagonistic to phthisis. In my experience, labour commonly precipitates the fatal issue of the disease. Some perish during pregnancy; a large number

sink rapidly after labour. This last trial breaks down the remaining forces of the system.

"3. Consumptive people seem at least as apt in procreation as others. The children whom they bring into the world undoubtedly inherit the tubercular diathesis. How many of these perish quickly of convulsions, or, a little later, of abdominal or pulmonary disease! How few grow up to robust adolescence! And how large a proportion of those who survive to maturity repeat the sad history of their parents, scattering mental and physical distress around them!"

Art. 42.—*The Marriage of Consumptives.*

By Henry Bennet, M.D.

(*British Medical Journal*, March 18.)

Dr. Bennet entirely agrees with Drs. Williams and Barnes: marriage is undoubtedly a source of great danger to the consumptive young, male and female, but the danger does not, in his opinion, proceed from the same cause in both sexes, and it is well that this fact should be pointed out and recognised by the profession. In women, sexual indulgence, as such, even if carried rather beyond the bounds of discretion, does not try or fatigue the constitution to any great extent. Even to the consumptive female it merely becomes a source of actual danger when it induces uterine disease, or is followed by pregnancy, confinement, and nursing, with the attendant shock and drain on the vitality. Dr. Bennet quite agrees with Dr. Barnes that phthisis is constantly accelerated and rendered fatal thereby. He has seen very many instances of the kind, and considers pregnancy a most unfavourable complication of phthisis, and always dreads its co-existence. As, likewise, five women out of six who marry prove fertile, the danger of marriage to an actually consumptive female is very great indeed; no physician, indeed, can conscientiously advise it.

With men, the danger is from another cause. It lies principally in their want of discretion, in their frequent want of power to control their sexual desires in married life, and in the absolute want of a moral or religious sexual standard for married people in society as it is now constituted.

Art. 43.—*Marriage of Consumptives.*

By George H. Savage, M.D. Lond.

(*British Medical Journal*, March 25.)

Dr. Savage adds one more objection to the marriage of consumptives. There is some evidence that consumption is contagious—contagious, perhaps, to a low degree, requiring true contact, and that often repeated. It is no new idea that sleeping with a person has some peculiar effect on the body. Guy's men have often heard Dr. Wilks ask if some poor, pinched, aged-looking child slept with its grandmother. Dr. Savage finds that in the north in many parts there is the same idea, and that it is considered wrong to allow old and young to sleep together.

Art. 44.—*On the Production of Hæmorrhage, Anæmia, Œdema, and Emphysema in the Lungs by Injuries to the Base of the Brain.*

By C. E. Brown-Séquard, M.D., &c.

(*The Lancet*, January 7.)

Dr. Brown-Séquard's object in this paper is to call the attention of practitioners to some experimental facts, which, in connexion with a great many clinical facts, show how frequently the lungs are altered consecutively to a lesion of the brain. In making experiments on the comparative lethality of injuries to the left and the right sides of the brain, the author found, a year ago, that one of the most frequent causes of death, when it does not occur immediately or very soon after wounds of the brain, in guinea-pigs especially, was pneumonia. He was led by this fact to perform a large number of experiments to ascertain the immediate effects of an injury to the brain on the lungs. The results obtained were startling; in almost all cases of injuries by crushing or section of the pons Varolii ecchymoses were found in the lungs. Sometimes the whole lung was crowded with effused blood, and real pulmonary apoplexy existed. In some instances the effusion took place in the bronchial tubes. Injuries to other parts of the base of the brain, especially the crura cerebri and the crura cerebelli, sometimes are followed by the same effects on the lung, and it is extremely probable that a slight pressure upon the pons Varolii by effused blood is sufficient to produce it. Injuries to the medulla oblongata and to the spinal cord have but very rarely (only in three or four experiments out of a great many) caused an effusion of blood in the lungs. This is the more remarkable that, without any doubt, the nerve-fibres going from the pons Varolii to the lung, which cause the rupture of small blood-vessels in this viscus, pass through the medulla oblongata and the cervical part of the spinal cord. Many experiments have shown Dr. Brown-Séquard that it is not through the par vagum, but through the sympathetic nerve, especially by its spinal roots, which throw themselves in the first thoracic ganglion, that the peculiar influence of the irritated pons Varolii exerts itself in producing a pulmonary hæmorrhage.

Many experiments, some of them made with the help of an ingenious physiologist, Dr. J. S. Lombard, of Boston, U.S., have shown the author that the condition of the lung, as regards distension or collapse of the air-cells, does not materially change the effect produced on the lungs by the crushing or a wound of the pons Varolii. He has filled the lungs (the thorax opened sometimes) with as much air as insufflation could push in, and seen ecchymoses, small or large, appear at once, or almost at once, after the irritation of the pons. On the other hand, Dr. Brown-Séquard has withdrawn as much as he could the air contained in the lungs, and ascertained that ecchymoses appeared then as in the preceding experiments from the same cause. It is not essential at all that there be a continuation of breathing after an injury to the pons for the production of hæmorrhage in the lungs. Indeed, in all

the cases of crushing, and in a great many of the cases of section, of the pons Varolii which the author has performed, the kind of syncope which he has described as the respiratory syncope (inhibition of respiration) exists at once after the lesion, and notwithstanding this complete cessation of respiratory movements, the breaking of small blood-vessels takes place in the lungs.

A lesion in one of the lateral halves of the pons produces generally a much greater effect in the lung on the opposite side than in the one on the same side.

The above experiments have been made on guinea-pigs; but in two rabbits and three cats Dr. Brown-Séquard has found that the section or the crushing of the pons Varolii produced also a hæmorrhage in the lungs.

A hæmorrhage is not the only immediate effect that can be observed after an irritation of the base of the brain by crushing or cutting: an anæmic condition, œdema, and emphysema can also be produced. Some small parts of the lungs are found perfectly white, and, according to the examination of a distinguished micrographer, M. Rauvier, who has kindly helped the author in some of these researches, absolutely deprived of blood, no doubt through a spasm of the blood-vessels having emptied them of their contents. This may occur after injuries of almost all the parts of the base of the brain, but especially the pons Varolii. Not so as regards œdema, which principally appears after an injury to the medulla oblongata. Looking at a lung in which such an alteration exists, one observes one or several greyish spots, generally circular, and of the size of the head of a pin, protruding as a part of a sphere from the surface of the lung. This pearl-like part of the lung, according to M. Rauvier, contains a good deal of serum, and its minute blood-vessels are filled with the white corpuscles of blood, and free from red corpuscles. This is, indeed, a most wonderful fact, and the more so that this change in the contents of the pulmonary capillaries is immediate.

The last effect Dr. Brown-Séquard mentions of an injury to the base of the brain on the lungs is already known to experimenters—viz., emphysema. What he states about it is a new and very remarkable fact, which does not agree with the reigning theories of the mode of production of emphysema. It is that this morbid condition can appear when not a single respiratory movement takes place, after an irritation of the base of the brain, either by crushing or cutting.

When Dr. Brown-Séquard publishes the details of his experiments on the influence of injuries to the brain on the lungs, he will show that, in man, diseases of or injuries to the brain very frequently produce organic alterations in the lungs. Dr. Brown-Séquard contents himself here, to prove the frequency of that morbid influence of the brain on the pulmonary organs, to state that, out of 188 cases of organic disease of the brain recorded by Calmeil,* there was a morbid state of the lungs, especially inflammation, in more than 60 cases—*i.e.*, in one case out of three. The author has no doubt that many patients attacked with brain diseases die from a disease of the lungs caused by that of the central organ of the nervous system.

* Traité des Maladies Inflammatoires du Cerveau. 2 vols. Paris, 1859.

Art. 45.—*Pigment Induration of the Lungs.*

By Francis Delafield, M.D., Curator of Bellevue Hospital, New York.

(*American Journal of the Medical Sciences*, January.)

Dr. Delafield describes a lesion of the lungs, caused by heart disease, which has attracted but little attention, and yet is both of frequent occurrence and of considerable importance. The first detailed description of this lesion was given by Virchow, in 1847. The works which serve as text-books for most students, either do not mention this affection at all, or advert to it as a rare disease not to be diagnosticated. His observations are based on a study of twenty autopsies of this disease. The lesion is not an uncommon one. During a period of twenty months there were made, at Bellevue Hospital, sixty autopsies in which there were marked lesions of the heart. In twenty of these cases, one-third of the number, pigment induration of the lungs was found.

When the lungs are cut open, the colour and texture are very characteristic. The texture is dense and resistant, like that of compressed lung. It is very dry, contains very little air, hardly any blood or serum escapes. In some cases the lung-tissue is œdematous but not congested. The colour is very marked uniform bright pink. This pink may be mottled with spots of brown or black in a very variable degree. The increase of pigment on which Virchow insists, although present in nearly all the cases, was very seldom of sufficient amount to attract attention with the naked eye.

Mitral stenosis is almost always accompanied by pigment induration of the lungs; simple mitral insufficiency causes it in nearly half the cases; aortic disease with mitral insufficiency causes it in one-fourth of the cases. All the symptoms which indicate an obstruction to the passage of blood from the lungs into the left auricle, point in some measure to this disease. The existence of dyspnœa, cough with mucous expectoration and hæmoptysis, without any evidence of emphysema, are also evidences of pigment induration.

There is a general loss of resonance over both lungs; the respiratory murmur is feeble; there are coarse and subcrepitant râles varying in amount from day to day.

(c) Concerning the Circulatory System.

Art. 46.—*The Geographical Distribution of Heart Disease and Dropsy in England and Wales. Illustrated by a large Coloured Map.*

By Alfred Haviland, M.R.C.S. Eng., Lecturer on the Geography of Disease in England and Wales, at St. Thomas's Hospital.

In his work on the "Geographical Distribution of Heart Disease and Dropsy in England and Wales," Mr. Haviland tells us that the great

majority of heart-disease cases in our country have their origin in rheumatism, and that this disease in parts of England is endemic.

Heart disease, if we use the term generally, has almost every variety of cause imaginable; but *the* rheumatic heart disease, which kills in such large proportions, is of insidious growth, often unsuspected in youth, and frequently allowed to remain unheeded until it has taken too firm a root to be removed. The author believes that it does not require a regular attack of rheumatic fever in order to set up disease in the heart; his experience, extending now over nearly a quarter of a century in hospital and private practice, leads him to believe that in certain localities rheumatic disease begins to show itself very early in life; and that from neglect of the first symptoms much mischief accrues. In the agricultural districts we see too frequently the crippling effects of chronic rheumatism. Mr. Haviland thinks that the coincident phenomena point to some *materies morbi*, resident in certain localities, perhaps in all; the only difference being that one district is frequently purged by the beneficial influence of the sea-winds, whereas another is sheltered so as to admit of an accumulation; this accumulated air-sewage may have either an animal or vegetable origin, or both, it is impossible to say. All that we know is, that it is coincident with excess of rheumatism and excess of mortality from heart disease. What we see obtain in the deep unventilated valley-districts of Devon, Dorset, Hants, and Hereford, we find in towns where a free flushing of the air-sewage is precluded by the natural position of the town itself; or, if well situated for air flushing, by the bad arrangement of the streets, which are so built as to intercept what otherwise would thoroughly ventilate them, and either chemically or physically rid them of the disease poison. In the agricultural districts he has no doubt that low wages and low living conspire to render the body unfit to contend against the external influences which are to be found in certain districts; an ill-fed agricultural labourer turns out early in the morning to attend to his duties in the fields, often before the dew is off the ground, when the air is most chill, and when the exhalations of the night are most noxious; it cannot therefore be wondered at that a large proportion of this class are to be found amongst those who succumb to rheumatism and its sequels —heart disease and dropsy.

The dark blue places on the map are places to be avoided during convalescence, when a change of air is required for a rheumatic case; and again, the map shows us, if it be true, that rheumatic heart disease is the most prevalent form of that disease in England, that localities having the characters which have been set forth as coincident with a high death-rate should not be selected for residence by those who wish to avoid the risk of evoking a disease to which their bodies are already too prone. These are two practical points, Mr. Haviland writes, of immense importance to the medical practitioner and his patient; but the facts already detailed involve a great many more, which will suggest themselves to those who have enjoyed much experience in their profession. A grand lesson is taught us by the map, of the beneficial effects of free ventilation, and one which we should ever remember when building our streets, our houses, and our hospitals. Mr. Haviland does not think that the influence of the sea-winds on the mortality from

heart disease is altogether physical; he inclines to the view that there is a chemical element as well in operation; he thinks that ozone may not play an unimportant part in destroying the material of rheumatism. If so, in the wards and chambers where cases of rheumatic fever lie, we should not only take care that the ventilation is perfect without draught, but that the atmosphere is impregnated with artificially formed ozone; this experiment the author feels is worth a trial; he knows its efficacy in fever. On one thing he feels confident, that the removal, as soon as practicable, of a patient suffering either from the chronic or the acute form of rheumatism, to a locality unfavourable for the development of the disease, is quite essential in order to expedite recovery.

Art. 47.—*On Irritable Heart.*

By J. M. Da Costa, M.D., Physician to the Pennsylvania Hospital.

(*American Journal of the Medical Sciences*, January.)

Dr. Da Costa, in speaking of the treatment of irritable heart occurring in soldiers, with hypertrophy, states that no medicine can be compared to aconite. In moderate doses, used for months, a decrease of the enlarged organ happened. In pure irritable heart he recommends digitalis, digitaline, and veratrum viride—the latter stands between aconite and digitalis. Ten drops of the tincture of digitalis were given three times daily, and from 1-60th to 1-30th of a grain of digitaline, to some of his soldier-patients. He is disappointed in gelsemium as a cardiac sedative. In instances of irregular action, belladonna and atropia proved very efficient agents.

Art. 48.—*Remarks on a Case of Cardiac Disease.*

By W. Stokes, M.D., D.C.L., Regius Professor of Physic in the University of Dublin.

(*British Medical Journal*, March 18.)

At a meeting of the Pathological Society of Dublin, on February 18th, Dr. Stokes presented a most interesting case illustrative of some obscure points in the diagnosis of cardiac disease. The patient was a man aged thirty-one, who six years ago was admitted to the Meath Hospital suffering from "heart" disease, most probably from pericarditis. At the time of his second admission, a short time ago, he was the subject of general anasarca. On physical examination, the liver was found to be much enlarged, its lower edge being felt just above the crest of the ilium. But the most striking physical signs were met with in connexion with the heart. At its base a double murmur was audible, of which the first part was systolic, and the second corresponded with the diastole. This bruit became fainter when traced towards the apex,

but at this point it was again distinctly heard. Besides the double basic murmur, a loud *frémissement* existed at the base. This sign disappeared at a subsequent period, but only to return. There was visible pulsation in the carotid alone, and the pulse partook to some extent of the characters of the collapsing form. Here then were all the usual signs of aortic patency, together with the basic *frémissement*, and a second double murmur at the apex. Dr. Hayden, who was asked by Dr. Stokes to see the case, suggested that the lesion was aneurism of the right ventricle. After death the left ventricle proved to be much hypertrophied, the aortic valves were found perfectly competent, though somewhat thickened; and a true aneurism sprang just above the origin of the aorta. The tumour was intrapericardial, and from the sac a fistulous passage led into the cavity of the right ventricle. There was, in fact, a varicose aneurism. The *frémissement* was now explained—its disappearance Dr. Stokes regarded as due to a temporary plugging of the fistulous openings. Cyanosis was never present, though before death the patient's aspect became unusually livid. Dr. Stokes mentioned that this was the second instance in his experience in which an aneurism springing in the neighbourhood of the sinuses of Valsalva had perfectly simulated the comparatively common disease, permanent patency of the aortic valves.—Dr. Hayden stated that his diagnosis was founded on the following considerations. First, the murmur of exit possessed a peculiar character, one never remarked in simple valvular disease. It resembled the sound caused by the entrance of fluid into a resounding cavity, and might best be described by the word "splashing." Secondly, this murmur was not transmitted into the carotid vessels.

Art. 49.—*The Etiology and Prevalence of Diseases of the Heart among Soldiers. The "Alexandra Prize Essay."*

By Arthur B. R. Myers, Assistant-Surgeon Coldstream Guards.

The following conclusions are given in Mr. Myers's *brochure*:—"To sum up what I have so far written, it may be said that it is an undeniable fact that disease of the heart is more prevalent in the army than in the civil population; that its three main causes, as generally understood—viz., rheumatism, Bright's disease, and violent manual labour—apply more to the latter than the former; that syphilis, whatever may be its effects on this organ, directly or indirectly, by attacking both classes to nearly the same extent, must produce a relatively equal deteriorating effect; that disease of the mitral is more common than disease of the aortic valves in the civil population, and aortic more than mitral in the army, and consequently, that there must be something specially associated with the life of the soldier to produce this marked difference; that though the heat and malarious diseases of India and of other countries in which our army has to serve may not, according to statistics, produce a greater ratio of heart disease than this more healthy climate of Great Britain, it is probable that such is their tendency, as well as to develop more rapidly disease, the foundation of

which has been laid in the young soldier before he leaves his own country; that the very frequent functional derangement of the heart of the young soldier can be readily detected by the sphygmograph before it is otherwise recognisable; and, therefore, that this instrument might be made of great use in directing attention to an abnormal condition, which, amenable to treatment at first, is only the precursor, if neglected, of diseases that, though capable of being kept within certain limits, cannot be cured; that there is one special cause of heart disease in our army now clearly laid down by those who have most studied the subject —viz., the prejudicial constriction of the uniform and accoutrements— this producing such obstruction to the circulation that, either directly or indirectly, as by aneurism and disease of the aortic coats, &c., the heart is abnormally strained, and frequently passes into a state of functional derangement, and ultimately of organic disease." Pp. 81, 82.

(D) CONCERNING THE ALIMENTARY SYSTEM.

ART. 50.—*Notes on the Treatment of Habitual Constipation at the London Hospitals.*

(*The British Medical Journal*, January 7 and 14.)

The following notes on the treatment of habitual constipation are of interest. They represent very fairly the ordinary means adopted in practice by most of the London hospital physicians to relieve this troublesome affection. The revolution which has taken place of late years in the treatment of habitual constipation from one of irritation to coaxing, as Dr. Habershon very happily expresses it, is scarcely less marked than that in the treatment of inflammation, from venesection to the occasional use of leeching.

Guy's Hospital.—In habitual constipation Dr. Habershon thinks it is most desirable, if possible, to avoid the use of purgative medicines and to use those hygienic measures which are likely to induce increased action of the colon, such as horse exercise, walking, &c.; a diet which is stimulating in its action on the mucous membrane, as fruit, vegetables; brown bread should also be partaken of. If these measures be insufficient, then a draught of cold water early in the morning may be used, or Frederickshall water or Pullna water. If medicines be absolutely necessary it is well to use the milder ones first, as dried rhubarb, with carbonate of soda or taraxacum; then to resort to more active drugs. These should be given during a meal or directly afterwards, the watery extract of Barbadoes aloes, with or without the extract of nux vomica, or a small dose of strychnia; but, if more active measures be required, then the extract of jalap, or of colocynth, or the podophyllin resin may be added. There is a great difference in the constipation of young persons and those advanced in life; in both there may be inertia of the involuntary muscular fibre and distension of the colon; but in the latter there is more likely to be impaction of fæcal masses in the rectum and sigmoid flexure—in these instances aromatic stimulants, as pepper and guaiacum, are often of great service, and enemata may become abso-

lutely necessary. It is astonishing however how, in cases of habitual constipation, where drugs may for long periods have been regarded as essential, simple measures, quiet waiting, gentle exercise, and a process of coaxing rather than of irritation, are followed by satisfactory results.

The London Hospital.—Dr. Ramskill says that obstinate constipation is to be overcome by a study of the condition of the intestines, and of the general health of the patient in whom it occurs. Speaking generally, in thin anæmic persons, a combination of iron, aloes, and nux vomica, given twice daily before meals, acts best, for the constipation depends on a weak muscular coat of bowels, and this combination gives help. Again, in plethoric stout persons, the watery extract of aloes, with soap and antimony, is in practice equally satisfactory, the last drug causing free mucous secretion. Again, in pale, flabby, fat persons, who have pendulous belly to a greater or less extent, belladonna, with quinine and rhubarb, fulfils all indications. These remarks apply to simple uncomplicated constipation. In no case should the dose of aloes or rhubarb be such as to induce a fluid or even semi-fluid evacuation, or to cause more than one. A large single evacuation is the desideratum; and it is to be remembered that, in old persons of spare habit, an evacuation occurring every second day, or in some people every third day, is not constipation. A steady persistence in any plan adopted for at least fourteen days should be insisted on, before any satisfactory result is to be looked for, or any judgment pronounced. Help may be obtained in some degree by increasing the quantity of green vegetable at dinner. Spinach is especially useful, and it is, perhaps, as good a cholagogue as taraxacum. Finally, in all cases of constipation, a habit of kneading the bowels, especially during the period of their action, is perhaps the most valuable help, for obvious physiological reasons.

King's College Hospital. — The treatment of habitual constipation amongst Dr. Kelly's out-patients is chiefly a matter of diet. Many that suffer from it have been in the habit of taking aperient pills or draughts, and, although relieved for the time, the complaint returns again. When it occurs in those who are leading sedentary lives it is usual to recommend active exercise when possible, the avoidance of indigestible food, and cold sponging. Brown bread, baked apples, and figs seem to be extremely useful articles of diet, and are often effectual. A dose of sulphate of magnesia (one or two drachms) in cold water early in the morning is a very useful adjunct, when given once or twice a week. In cases where women suffer from constipation after delivery, similar diet may be recommended, with an occasional dose of confection of senna or of sulphur. Castor oil, aloes, and rhubarb only relieve for a time, and the bowels are afterwards more confined than before. With children the proper regulation of diet is the most important thing, and is often effectual enough. When an aperient is required, a powder made of equal parts of rhubarb powder and carbonate of soda in five-grain doses is very useful.

St. Bartholomew's Hospital.—These cases are treated by Dr. Duckworth, as far as is possible in out-patient practice by suitable diet, and only the simplest medication is resorted to. To that numerous and most importunate class who crave for "a few opening pills," directions are given to eat brown bread, treacle, oatmeal porridge, fat bacon,

stewed fruit, or prunes, as part of their diet, and abstention from excess of over-infused tea—a common bad habit—is enjoined. Inasmuch, too, as a certain proportion of the cases of constipation is due to insufficient dietary, a recommendation for food constitutes the only prescription for these. Attention is directed to the importance of proper exercise and the establishment of defæcation at a regular hour, and elderly patients, especially females, are urged not to be overanxious if the bowels fail to act every day. The ordinary purgative medicines, such as senna, jalap, colocynth, and mercurials, are seldom, if ever, employed in habitual constipation, but in their place twenty to sixty grain doses of sulphur præcipitatum are given early in the morning (best stirred in a cupful of hot milk, according to the practice of Dr. Nevins, of Liverpool), or, instead, a drachm of the confectio sulphuris, Ph.B. In some instances a draught of cold water at bedtime, or first thing in the morning, is sufficient to overcome a constipated habit. In cases where there are atonic dyspepsia, or troublesome flatulence in the stomach and bowels, small doses of quinine or nux vomica are given, combined with compound rhubarb pill or aloes—*e.g.*, one grain of sulphate of quinine with three to four grains of compound rhubarb pill, or extract of nux vomica a quarter of a grain, with three to five grains of either Barbadoes or Socotrine aloes, once or twice a day before meals, and generally with the best effects. In other cases, especially where there are colicky pains, and tendency to overloading of the colon, where there are morbid growths or conditions interfering with comfortable defæcation; or where hæmorrhoids exist, the extract of belladonna is employed in the form of pill (with liquorice powder) in doses varying from a quarter of a grain to a grain twice a day. The results with this drug are very satisfactory, and Dr. Duckworth believes that medication by belladonna, alone, in many cases of habitual constipation, deserves to be classed amongst the best efforts of modern therapeutics.

Charing Cross Hospital.—Constipation characterized by habitualness is treated by Dr. Hyde Salter according to its cause; it may be a constitutional tendency—part of the individual, it may depend upon weakness of the muscular wall of the bowel, it may depend on sedentary habits, it may depend on habitual neglect and the diurnal rhythm having been long interfered with. For such cases he prescribes active exercise, a punctual and daily visit to the temple of Cloacina, whether called for or not, and, of course, all such things as fruit, vegetables, brown bread, &c. Dr. Salter has known a daily pipe immediately after breakfast determine the action of the bowels, and completely conquer a very obstinate habitual constipation. In cases where habitual constipation arises from weakness of the muscular wall of the bowel, he thinks strychnine is certainly of use; Dr. Salter generally gives it in the form of nux vomica. He has undoubtedly seen also in pale, weakly, and flabby people the action of aperients very much assisted by the sustained administration of iron; as soon as ever the iron began to act and gave the person colour and strength, the bowels became obedient to that which failed to move them before.

Middlesex Hospital.—The following is a brief sketch of the method adopted by Dr. Robert Liveing in dealing with ordinary cases of uncomplicated constipation. The two following general directions are

applicable in almost all chronic cases. Firstly, that meals should be taken at regular intervals, with a fair quantity of green vegetables and brown bread. Secondly, that the habit of evacuating the bowels at a fixed hour every day should be adopted. There are three forms of chronic constipation commonly met with, each of which requires a different treatment. 1. The ordinary constipation of old people. This is best overcome by the daily use of from one to two grains of the watery extract of aloes taken at about 6 p.m. This pill may be continued for many years without losing its effect. 2. The constipation commonly met with in hysterical and anæmic young women is best treated by combining purgatives with tonics. A pill, composed of the compound assafœtida pill with a grain of extract of nux vomica and a grain of the watery extract of aloes, taken twice a day, is very effectual. In addition to this, a mixture containing carbonate of iron should be given daily, and shower-baths used. Galvanizing the abdomen has sometimes an excellent effect. 3. The constipation met with in men who are overworked or lead sedentary lives appears often to depend on a want of nervous power, or "tone," as it is called, in the intestines. These cases are almost always benefited by fresh air and exercise, with the internal administration of liquor strychniæ in five-minim doses. Accidental cases of obstinate constipation occurring without any obvious cause should be first treated with a sulphate of magnesia mixture, given in rather small doses, but repeated every hour until the bowels are moved. If this fail, the injection of a very large quantity of warm soap and water thrown up as far as possible into the large bowel is a safe and effectual remedy. In constipation which results from lead-poisoning, a full dose of opium with eastor oil should be given. And in all cases of constipation associated with local pain and tenderness, opium and the recumbent position are indicated, with soothing external applications over the seat of pain.

St. George's Hospital.—In the treatment of obstinate constipation, Dr. Fuller lays special stress on the management of the routine of his patient's daily life. His impression is, that in the majority of instances the constipation originates in a neglect to attend to the calls of nature, whereby the bowel ultimately becomes insensible to its natural stimulus. Therefore he insists, as preliminary to all treatment, that the patient shall go to the water-closet daily at a stated hour, and shall remain there with his mind directed solely to the object of his visit for at least five minutes; there being no doubt, in Dr. Fuller's mind, that any diversion of the thought tends in many instances to diminish or draw off the nervous influence which would have sufficed for defæcation if the mind had been directed solely to the act. This being strongly insisted on, Dr. Fuller is guided in the choice of his remedies by the result of his inquiries in each individual case. If the tongue be clean and not unduly red, and there be no apparent derangement of digestion, he ordinarily suspects inactivity of the large bowel, and orders an enema to be used once a a week, prescribes a pill containing aloes and nux vomica to be taken twice a day before meals, and advises the use of brown bread. If the secretion be unduly pale or unduly dark-coloured, indicating inactivity or derangement of the liver, he adds to the pill a small dose of podophylline, or prescribes a pill to be taken occasionally, containing two

grains of calomel and a grain of colchicum, both of which agents appear to him to exercise a stimulating influence on the lower bowel. If, on the other hand, the lower bowel appear to be acting freely—in which case the enema will prove to be of little or no service—and if, at the same time, the tongue be red and possibly chapped, indicating an unhealthy and congested condition of the mucous membrane, Dr. Fuller prescribes a dose of Pullna, or some other saline aperient water, before breakfast, and calls to his aid a wet compress on the abdomen. Again, if the lower bowel be acting freely, but the tongue, instead of being unduly red, be pale and flabby, he prefers a pill two or three times a day containing iron, aloes, rhubarb, and nux vomica; and, if there be much tendency to flatus and spasm, he adds to this pill a small dose of belladonna. In some of these cases he has found electricity useful, whether in the form of a strong continuous current applied for a short time daily, or in that of a Pulvermacher's chain, worn constantly day and night. But in many instances of constipation the fault appears to Dr. Fuller to lie in inactivity of the liver and of the secreting apparatus of the digestive organs, rather than in mere torpidity of the muscular coat of the bowel. These cases are characterized by a coated tongue, a foul breath, congestion and yellowness of the conjunctiva, and a tendency to headache and occasional nausea. In these cases, the secret of successful treatment lies in a proper regulation of the diet, and on the taking of sufficient active bodily exercise. Abstinence from fatty and saccharine matters, together with a diminution in the daily allowance of alcohol: a diet in which green vegetables and fruit play a conspicuous part, together with active exercise and the occasional use of a Turkish bath, will generally suffice to rectify this form of constipation. The drugs most serviceable for its relief are rhubarb, colocynth, scammony, and podophyllin, combined, if necessary, with a twelfth of a minim of croton oil, and occasionally a dose of calomel; but these are only temporary expedients for the relief of a condition which is clearly induced by excess in eating and drinking, improper food, or inactive habits, and which can be easily counteracted by careful attention to the points above mentioned.

In cases of extreme constipation, terminating in temporary obstruction of the bowels, Dr. Fuller gives two pills composed of equal parts of scammony, calomel, and colocynth, to which he adds a minim of croton oil. After these have been taken about two hours, he puts the patient into a hot bath and administers a copious enema of warm water; and, if that fail, he gives an enema containing an ounce of turpentine and an ounce of castor-oil. If this prove ineffectual, he follows the pills by a senna draught or a full dose of castor-oil, and then gives an effervescing saline every three hours, containing a drachm of sulphate of magnesia. If much sickness exist, and the pills be rejected or do not act, he gives ten grains of calomel in powder and applies a mustard-poultice to the epigastrium, and then repeats the effervescing saline and sulphate of magnesia. This treatment, however, is applicable only to extreme constipation, not to obstruction of the bowel.

King's College Hospital.—With reference to the treatment of habitual constipation, Dr. George Johnson remarks that, with some persons, constipation is habitual, without being attended with suffering or incon-

venience. In some subjects, an action of the bowels every second, third, or fourth day, is as regular a habit as in others is a daily evacuation after breakfast. When constipation is not attended with obvious suffering, medicinal treatment is of doubtful advantage; and in all cases it is better, if possible, to promote a regular action of the bowels by daily active exercise either on foot or on horseback, and by a carefully regulated diet, including a sufficient proportion of vegetables, than by the employment of medicines. With our present knowledge of the close relationship between respiration and the secretion of bile and urine, few will deny that the free respiration of oxygen, which active exercise insures, is a better cholagogue than blue pill. With regard to the use of aperients for habitual costiveness, as a rule saline aperients are to be avoided; and the daily or frequent administration of a gentle aperient is better than giving occasional drastic doses of stronger drugs. The combination of a tonic with an aperient is often very efficacious; and, amongst tonics for this purpose, the nux vomica is one of the most useful. Half a grain of the extract may be given with a daily dose of compound rhubarb pill, or pilula aloës Socotrinæ (P.B.) The dose of the pill is to be determined only by experiment in each case. The combination of the tonic extract with the laxative should be given either with a late dinner or at bed-time. In anæmic subjects, the addition of iron to the aperient is very efficacious, and for this purpose the pilula aloës et ferri of the *Pharmacopœia* is convenient. When a lodgment of fæces in the colon is the cause of obstruction, enemata given by means of a long tube are obviously the best means to be employed. In all cases of obstinate constipation, the use of purgatives by the mouth requires much care and caution; their unguarded employment may irritate and inflame the bowel, and excite pain and vomiting. When obstruction of the bowels, from whatever cause arising, is associated with distension, pain and tenderness of the abdomen, and with frequent vomiting, the most suitable treatment, as a rule, with a few exceptions, consists in giving every four or six hours, according to the urgency of the symptoms, from one-third to one grain of opium in pill, either by the mouth or rectum, with hot fomentations to the abdomen, and abstinence from all purgatives. Opium, in this class of cases, is often a life-saving remedy. Dr. Johnson has met with one remarkable case, in which opium, given to relieve the pain of a dry pleurisy, caused a fatal obstruction of the bowels. Obstinate constipation, distension of the abdomen, and vomiting, followed the relief of the pleuritic pain. After death, the descending colon was found greatly dilated, and its muscular walls thin. The immediate cause of the obstruction was atony of the muscular walls of the colon, and this had probably been increased by the opium. The patient was a gentleman about sixty years of age, seen in consultation with Mr. Paget and Dr. Waggett.

University College Hospital.—Dr. Russell Reynolds, in treating cases of obstinate constipation, even when there has been stercoraceous vomiting and all ordinary means have failed, has sometimes succeeded in completely removing the obstruction by placing the patient under the full influence of chloroform, and when in that condition administering a copious injection of warm water.

Charing Cross Hospital.—Dr. Julius Pollock thus treats habitual

constipation. Diet should be carefully attended to, and consist of a free allowance of green vegetables, water-cresses, salads, fruit, &c., with good plain meat, fish, or game. Brown bread should be substituted for white, and all articles tending to confine the bowels, such as potatoes, farinaceous puddings, rice, &c., should be avoided. Plenty of fluid ought to be taken with the food, and a glass of cold water night and morning is often very useful. He believes many cases of constipation arise from the food being of a too solid or dry character. Dr. Pollock deprecates altogether the use of strong purgative medicines in these cases; and advises small doses of the compound rhubarb pill, say two or three grains taken at dinner; or the occasional use of five grains of compound aloes pill at bedtime; and possibly now and then an enema may be given with advantage. Want of tone in the muscular coat of the bowel is, he believes, a frequent source of habitual constipation, and therefore preparations of nux vomica, strychnine, steel, &c., are often very useful. Moderate exercise should be enjoined.

St. Mary's Hospital.—Dr. Broadbent begins the treatment of obstinate constipation by unloading the lower bowel by means of enemata. When the rectum is packed with hard scybala, warm olive oil is, as he learnt from Mr. Paget, much the best medium for softening them down. In out-patient practice, enemata have usually to be dispensed with, the patients being unable to purchase the necessary instruments, and drugs and diet have to be relied upon alone. In all cases, with or without the assistance of enemata, the medicinal treatment he employs is the administration of aloes usually in the form of pill with soap, in doses of ten grains of the mass taken daily after dinner. He never increases the dose, very rarely gives it more than once a day, but insists on regularity in taking it. Dr. Broadbent adds, at times, extract of belladonna, or extract of nux vomica (or strychnia), or sulphate of iron, or quinine, according to indications which need not be specified, trusting, however, mainly to the aloes and soap. When the dose above mentioned fails to induce action of the bowels, as is not uncommonly the case at the outset of the treatment, he orders one or two drachms of sulphate of magnesia with two grains of sulphate of iron, and five minims of dilute sulphuric acid, in an ounce to an ounce and a half of mint or dill water to be taken every morning; or sulphate of magnesia with ammonia and gentian once or twice a day. After a short time, the aid of the saline is usually no longer necessary; and later, the dose of aloes can be diminished, then it may be taken only on alternate days, and ultimately given up altogether. The diet is, of course, regulated, and the importance of a regular and patient attempt to empty the bowel at a certain definite time is insisted upon. A large cold water compress over the abdomen, and friction and kneading in the course of the colon, or one of Pulvermacher's chains, Dr. Broadbent has found useful accessories, the latter more particularly, in cases of hypochondriasis.

Middlesex Hospital.—Dr. John Murray deprecates the employment of purgation to relieve the bowels in habitual constipation—a method of procuring relief which is temporary, and followed in many cases by increased paralysis of the gut. The very habitualness of the affection alone seems to point to the conclusion that gradual means should be taken to meet it effectually. As a general rule, drugs ordinarily em-

ployed to produce purgation, if given frequently and in doses such as do not produce loose motions, are followed by beneficial results in habitual constipation. The value which any one of these different remedies possesses in the treatment of habitual constipation, depends on the individual case to be treated. Careful selection is often necessary—more so than used to be bestowed by some practitioners—in the selection of a purgative. Speaking generally, the ordinary remedies employed by Dr. Murray are the liquor strychniæ or nux vomica: the former with iron, in debilitated persons, produces frequently marked benefit. The pilula aloës cum nuce vomicâ of the Middlesex Hospital *Pharmacopœia*, composed of a quarter of a grain of extract of nux vomica, half a grain to a grain of extract of socotrine aloes, and a grain of hyoscyamus, forms an excellent remedy in numerous cases of long-standing constipation, A pill composed of about two or three grains of compound rhubarb pill, and an equal quantity of compound assafœtida pill, taken daily, is generally followed by very good results, especially in flatulent constipation of stout persons. In many cases belladonna taken in small doses is followed with the best results; and in urgent cases where it is found necessary to employ enemata, the addition to them of a grain or two grains of belladonna with a drop or two of oleum rutæ, is most valuable. Dr. Murray also uses largely an electuary, composed of sublimed sulphur, acid tartrate of potass, and senna—a combination which answers well in ordinary cases. Regularity and temperance in life, selected diet, and exercise, should be enjoined: they are of as much importance as all the pill masses in existence put together.

Art. 51.—*Obstruction of the Bowels of Twenty-one or Twenty-two Days' Duration.—Fæcal Vomiting.*

By J. Hancocke Wathen, L.R.C.P. Edin., M.R.C.S. Eng.

(*Medical Times and Gazette*, December 24, 1870.)

The following is a good example of the effect of opium in this class of case. As far as the obstruction was concerned, the treatment was successful; but, from the age of the patient, together with inefficient nursing, she eventually succumbed:—

Mary W., aged seventy-seven years, sought relief in January, 1870. She stated she had not had a motion for at least a week, up to which time her bowels had been acting naturally. The previous day two doses of castor oil were taken without any effect. Mr. Wathen found her with a quick, wiry pulse, coated tongue, abdomen tense and painful, no tumour to be detected. Ordered half-grain doses of powdered opium, with one grain of calomel, every two hours; turpentine enemata were administered, but were of little use, as they could not be retained for a moment. The calomel and opium were continued until the second day, when the former was omitted, and opium alone depended on. About the twelfth day from the alleged last evacuation, fæcal vomiting commenced, which continued until the twenty-first day, when there was a slight passage of fæcal matter per anum. The opium had been increased

to three-quarters of a grain; one grain was now ordered every two hours. The patient was at the lowest verge of exhaustion. The following morning she had a free fæcal motion, consisting first of hardened scybala, followed by liquid matter. The opium seems to have been a direct agent in producing this result, as her nurse, thinking if one pill would be of service, two would be of greater service still, gave her two pills at a dose. These, containing two grains of opium, appear to have checked all action in the upper segment of the intestine, allowing the inferior to bring down the obstructing body. Stercoraceous vomiting ceased, the bowels took on natural action, and the patient appeared to be in a fair way of recovering, after a most severe and distressing attack, but she sank in three weeks. Mr. Wathen firmly believes that, had her hygienic surroundings been more favourable, she would eventually have rallied.

Art. 52.—*Kneading in Constipation.*

By Geo. H. Savage, M.D.

(*British Medical Journal*, February 11.)

Dr. Savage relates a case to which he was called of a healthy old man, suffering from constipation and excessive pain over the right hypochondrium, so severe as to hinder examination. Enemata were used; the pain lessened, when a tumour was felt where the pain had been: this was soft and semi-dull. Enemata were continued; sickness and vomiting followed, stercoraceous matter being ejected. The patient seemed sinking; another medical man was called in consultation; and, there being a difference of opinion as to the nature of the tumour, it was manipulated several times. Soon after the patient passed a large quantity of hard fæces, and found that the tumour had disappeared.

Art. 53.—*On Metastatic Abscesses of the Liver.**

By M. Hayem.

(*Gazette Médicale de Paris*, No. 50, 1870.)

Dr. Hayem's researches on the early phases of metastatic abscesses of the liver were made on individuals who had succumbed to purulent fever or infection at a more or less advanced period, and all of whom had been affected with metastatic abscesses in several organs. Among the specimens examined, some were taken from the service of M. Verneuil, others were supplied by M. Guerin.

The metastatic lesions commence as pale spots of a greyish or yellowish white colour. The spots, constituted by decolorized acini dispersed here and there in a more or less congested tissue, are generally grouped about secondary ramifications of the vena portæ, in which one may perceive with the naked eye or with a lens, coagula of blood. In some instances the anæmic foci occupy a considerable extent, and the

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* Communicated to the Société de Biologie of Paris.

obliteration extends to venous branches of a medium calibre. They then form patches of a yellowish-white colour, which vary in number, occupying frequently the surface of the organ, and presenting the appearance of decolorized infarctions. They are irregular in form, and are always larger at the periphery than in the deep-seated parts of the organ.

Around these decolorized acini or infarctions there is sometimes blood-extravasation; but in most instances the hepatic tissue appears quite normal, and the diseased patch rapidly passes into healthy tissue.

In one case the liver contained a very great quantity of small foci of a bluish-white colour and resembling very fine miliary granulations, but which did not project from the real surface.

The microscopical changes were the same in all instances; they may be resumed thus:—

All the capillary vessels of the decolorized parts were filled with pale blood-globules in such a manner that in the thickness of the acini the trabeculæ of the hepatic cells were as sharply separated as in a perfectly injected liver—in such number were the white globules pressed between these cells. At the same time clots composed of fibrine and of some white and red blood-globules, were found in the veins accompanying the ramifications of Glisson's capsule—the extra-lobular veins. The intra-lobular veins were free, or rather filled equally by coagulated blood, some by white globules. There existed also at some points around the small vessels and between the elements of Glisson's capsule, infiltrations of leucocytes. Large clots visible to the naked eye, and occupying the larger venous branches, were almost always seated in the branches of the vena portæ; occasionally, however, in the intra-lobular veins. They were never observed in the arteries.

When the morbid changes are more advanced, one finds then, particularly at the periphery of the lobules, more or less considerable masses of leucocytes, which fill completely the tissue of the liver. These masses constitute at first a kind of purulent infiltration, at the seat of which the cells gradually disappear by granular atrophy; later one sees appearing at the points which correspond to the small miliary abscesses, visible to the naked eye, perfectly regular and rounded spaces composed entirely of leucocytes pressed together. The hepatic cells in direct relation with these foci are atrophied, but not beyond an extent of more than one or two cells. The other elements of the liver are perfectly healthy, so that the abscesses seem to be imbedded in hollows, made in a tissue altogether normal. In fine sections, after hardening the organ in alcohol, it is easy to make out that the abscesses proceed from the accumulation at the periphery of the lobules of leucocytes, which have passed in great numbers into the capillary networks, and which, according as they are extravasated, form masses, at first diffused and then regular, in the neighbourhood of which the cells of the liver are completely destroyed.

M. Hayem insists upon the novelty of the anatomical details which are here revealed, particularly those of the early coagulation of the blood in the veins, and the accumulation of white blood-globules in the capillaries and between the trabeculæ. This latter phenomenon bears upon the theory of suppuration from migration of white globules.

Art. 54.—*Acute Atrophy of the Liver.*

By Isaac G. Porter, M.D.

(*American Journal of the Medical Sciences*, January.)

A case of this rare disease, occurring in a merchant, aged twenty-three years, is reported by Dr. Porter. The liver was examined microscopically, and showed entire absence of the cell-element. He regrets to say that it was not weighed. It was so small, however, that on opening the cavity of the abdomen, the universal inquiry among by-standers was, "Where is the liver?" since it had shrunk so much as to have nearly vacated its normal position. The influence of miasmata, while spending a month of April in Savannah, Georgia, was supposed to have been the cause. He was a man of excellent habits, and living under happy mental and hygienic influences.

Art. 55.—*On Obscure Disease of the Cæcum.*

By Thomas King Chambers, M.D., Consulting Physician to St. Mary's Hospital; Honorary Physician to H.R.H. the Prince of Wales.

(*British Medical Journal*, January 7.)

Tumefactions, with dulness on percussion in the cæcal region, are usually referred either to organic tumours, to the forming of an abscess in the perityphlitic tissue, or to a collection of fæces. There is a fourth class of cases not included in any of these, and of much importance to distinguish from them; inasmuch as the treatment required is very different; yet they will be found by no means uncommon if the attention be directed that way. The patients are ordinarily such as, having previously had ague, or being resident in a somewhat paludal district, may be supposed to retain traces of the poison, and to have a malarial constitution in all diseases to which they may be subjected. The instances Dr. Chambers has fallen in with have been residents either in the low flats of the eastern counties or in the Thames valley, where, in spite of cultivation, the old curse of marsh-miasm still tries to linger, and may be dug up in newly-opened ground, or made active by accumulation when the free flow of air or water is obstructed. But it is not always easy to track the virus to its external source, and its manifestations in the human body are irregular and obscure.

The first hint of illness is usually a sudden pain in the lower part of the epigastrium, which sometimes causes vomiting by its intensity, but, when less severe, is not accompanied by nausea. The vomiting gives no relief. There is no tenderness on pressure. Then the pain transfers itself to the right iliac region, and some increase is felt on manipulating the part. Examination shows a rounded lump in that part of the abdomen, giving the impression of being about the size

of a small orange, or from that up to double the diameter. Then the pain gradually abates. The swelling is dull on percussion on firm pressure, and is slightly moveable. There is no diarrhœa or constipation in patients who have taken no medicine to act on the bowels; but they are very apt to exhibit the latter condition from strong purgatives having been administered. In fact, these cases are often referred to accumulated fæces, and the copious stools elicited by copious drastics are shown as evidence—which they are not. Diarrhœa, however, whether natural or medicinal, certainly makes the patients worse, produces a great feeling of illness, brings back the colicky pain, and does not allow the swelling to diminish so soon as it otherwise would. Dr. Chambers has known even such a childish dose as a teaspoonful of olive oil nightly to have an injurious effect. If not interfered with, the stools are solid and formed; and the more solid they are, the less ill a patient feels. The subsidence of the lump is gradual, and it may sometimes be detected by careful scrutiny several days after the bearer has ceased to be conscious of its existence.

Relapses, or, more properly speaking, recurrences of the disease are common. Slighter things will cause it each time. But yet, each recurrence is milder than the first, especially as respects the colic at the outset. This is just like ague.

As to the immediate cause, it is not always to be identified. In the case of a country gentleman, it was obviously the standing about with the thighs wet in cold weather, dragging a fish-pond. In a builder, it was a somewhat similar exposure in his business. In a young laundress at St. Mary's Hospital, the illness seemed due to the heats and chills of a wash-house. A resident on the banks of the Thames accused a railway embankment, which has run through her garden, of having made the house unhealthy.

Towards explaining the pathology of these cases, morbid anatomy has contributed nothing but negatives. If the author might be allowed to hazard a guess in the dearth of evidence, he would suggest that there is a specific congestion of the parietes of the cæcum, similar to that which takes place in the spleen in orthodox ague. He has no doubt that if it were continued too long, or were too often repeated, permanent disorganization might result, as happens to the spleen.

As to treatment, Dr. Chambers has found a large hot poultice on the abdomen a relief during the painful period, but he does not know that it diminishes the tumefaction. An agreeable one is made of half and half linseed meal, and young laurel leaves chopped small, with a teaspoonful of chloroform added at the times of application and renewal. The author has been disappointed with the effects of quinine. It is a good general tonic, but it does not in large doses cut the ailment short, as in the case of regular ague. Bark is apt to purge in large doses. Arsenic has given more satisfaction, and Dr. Chambers feels sure it is curative in these cases. When there is diarrhœa, opium checks it, and is not contra-indicated by the nature of the disease.

Art. 56.—*On Dysentery.*

By Dr. Constantin Paul, of Paris.

(*Gazette Médicale de Paris*, No. 41, 1870.)

The following are the symptoms of confirmed dysentery:—

"The patient is affected with severe colicky and torminous pains, which occupy most frequently the left side of the abdomen and the region of the descending colon. These pains frequently return, and in some instances are so severe as to draw forth cries, and to cause the patients to take the special attitudes of severe forms of colic—nephritic and hepatic colics. At first the abdomen is slightly distended, and also painful on slight pressure, as the contact of the bed-clothes. Owing to the peristaltic contractions of the intestine, there is frequent desire to go to stool. This constitutes tenesmus. These contractions are not propagated along the whole length of the intestines, but are restricted to the descending colon and the sigmoid flexure. The anus is relaxed. There is a sensation of heat when fæcal matter is passed.

"The desire to defæcate is more or less frequent; it is renewed twenty, forty, or sixty times during the day, and sometimes more frequently, so that the patient seems to be constantly on the night-stool, making at every instant fresh efforts to expel the contents of the intestine, and passing but a very few drops of liquid matter. The facts of this extreme frequency in going to stool, and the pain accompanying the discharge of fæcal matter, immediately lead one to put down the case as one of dysentery.

"The matter passed from the bowels is at an early stage of the disease generally fæcal in character, except in paludal and bilious forms of dysentery; but occasionally, and in rheumatic dysentery more especially, the acute pain is accompanied by the expulsion of small hard masses from the intestine. The fæcal discharge disappears when the dysentery is well established, and is replaced by débris of the intestinal walls, by scrapings of the bowels, as patients call them. One may meet with portions of mucous membrane, and even of the sub-mucous tissue, mixed with blood. This mixture is sometimes so intimate that it constitutes a jelly-like mass, which is at once characteristic of dysentery.

"As the disease advances it loses its characters; the blood becomes less abundant and may be replaced in severe and long-continued cases by laudable pus, then as the mucous débris becomes less abundant, the recovery progresses, until at last the bile returns, together with the other constituents of healthy stools.

"To these characters may be added another, and one of the most important. This is the strong tainted odour of the dejections.

"In dysentery the tongue is red. The patient is tormented as much by great thirst as by the desire to go to stool, and each draught of fluid gives rise to another painful attempt at defæcation.

"Fever varies in intensity in different kinds of dysentery.

"If the fever be very intense, we have the inflammatory form which occurs especially in accidental and rheumatic dysenteries, and is characterized by less intensity of pain, by abundant intestinal secretion, by the

stools containing less blood, and by a more rapid cure than in other forms. This form of dysentery is as truly rheumatic as if it had been preceded or followed by the phenomena of acute articular rheumatism. Stoll has described cases in which dysentery was preceded by coryza, and followed by swelling of the knees. In some cases there is pleurodynia or pleurisy. Trousseau has also described cases of rheumatic dysentery.

"A second form of dysentery is characterized by the preponderance of biliary and hepatic symptoms. The temperature is scarcely elevated, and the pulse is not frequent; there is loss of appetite; the tongue is furred; the patient has nausea and bilious vomiting; there is prolonged diarrhœa, and blood is found for a long time in the stools.

"Another form is characterized by the symptoms being very marked on one day and very slight on the day after, to become again severe on the third or fourth day. This is the paludal form of an intermittent or at least remittent type.

"A fourth form is constituted, not by accession of fever or bilious symptoms, but by typhoid or adynamic symptoms. There is an expression of stupor, the teeth are covered by sordes, and there is extreme prostration. The decubitus is dorsal. In this form the stools are tainted.

"The complications are more or less common, according as one or other of these forms of dysentery is presented. The most frequent of these complications are invagination and peritonitis, which may be due to simple extension of inflammation from the intestine or to a penetration of alvine material into the peritoneal cavity. In hot climates the most frequent complications are those on the side of the liver; as hepatitis with icterus. There are two other important complications—viz., algidity, caused through the abundant secretion of fluid charged with albumen, and the consequent impoverishment of the blood; and infection, produced by reabsorption of the secreted material. In some cases there is paralysis of the sphincter ani with prolapse of the rectum. Flatulent dyspepsia and hæmorrhoids are frequent complications of dysentery.

"The causes of death, are: algidity, from the excessive draining from the blood of albuminous material, and adynamia, consequent on febrile combustion or intolerance of food.

"When the body is opened of an individual who has succumbed to dysentery, the surface of the mucous membrane of the large intestine will be found covered by coagulated blood and fluid secretion, and studded with rounded ulcers. These have sharply-cut borders and at many places run into one another so as to form large ulcerated surfaces with irregular contours. The inflammation of the deep-seated tissue of the mucous membrane is accompanied by an exudation which diminishes the supply of blood and so disposes to gangrene. There is a true hyperplasia of the sub-mucous tissue. The mucous membrane may thus attain a thickness of one centimetre. If the affection be one of long duration, bridled cicatrices will be found.

"The gravity of the prognosis in dysentery depends upon the nature of the affection. If the dysentery has been caused by the use of caustics or of too active purgatives, it will generally be of short duration. The rheumatic and paludal forms of dysentery do not last for any length of time. The infectious dysentery is more serious in its results.

"It is necessary to consider the importance of the affected organ. If the large intestine alone be diseased the prognosis is a favourable one. It is necessary also to inquire into the quantity of blood passed in the stools, and whether there be any putrid infection. The signs of recovery are: a return of fæcal stools, a disappearance of blood and of mucous fluids.

"The most approved medicinal agent in the treatment of dysentery is ipecacuanha, which has been administered with this object in Brazil during the past two centuries. It acts more beneficially by its purgative than by its emetic effects.

"Mild purgatives may be employed with advantage in dysentery. Zimmermann vaunted the use of tamarinds, sulphate of soda, sulphate of magnesia and a combination of tartrates of soda and potash. These agents prevent the sojourn in the intestinal canal of putrid material which might produce infection.

"Opium is hurtful under certain circumstances; it calms pain, it is true, but by diminishing the intestinal sensibility it shuts the wolf within the fold, and exposes the patient to putrid infection. This drug is contra-indicated in the first period; it ought to be reserved for a more advanced stage of the disease when there is no longer any danger of putrid infection. It has been proposed to replace opium by belladonna, but this idea rests upon theoretical views and has not been carried into practice. Against tenesmus one may employ with advantage injections of seltzer water, the carbonic acid of which produces intestinal anæsthesia. Astringents, like opium, should be reserved for a late period of the disease. When there is abundant hæmorrhage perchloride of iron should be administered.

"Regimen is a matter of paramount importance. Care must be taken not to supply any article of food that is susceptible of putrid fermentation, as for instance, soup and meat.

"In the last ten years Polli and other Italian physicians have endeavoured to account for infectious maladies by the presence of morbid ferments. Polli thought that the specific remedies for these affections were to be found in antifermentescible agents, and, in order to support this opinion, made a number of experiments on animals. When I made known in France the works of the Italian physicians, I had under my care a dysenteric patient whose stools were so infectious that he had given cholera to the whole of his establishment. I then employed the sulphites to disinfect the dejections, and placed some hyposulphite of copper in the lead-pan. As this agent is quite inoffensive in disinfecting alvine matter in the rectum, I administered enemata, containing one part to twenty of the hyposulphite, and from this time succeeded in arresting fermentation to the rectum, and in removing infection.

"I can recommend this as a completely inoffensive and inexpensive method, and one possessed of a threefold utility. It disinfects the alvine dejections, it guards the patient from putrid infection, and prevents him from becoming a centre of infection to those in his vicinity."

Art. 57.—*On Enteric Fever.*

By Charles Murchison, M.D., LL.D., F.R.S., Physician to the Middlesex Hospital.

(*The Lancet*, December 10, 1870.)

The practical lessons which Dr. Murchison wishes to be drawn from the remarks he made in a clinical lecture delivered at the Middlesex Hospital are these:—

1. Even in the mildest cases of enteric fever, where there are no enteric symptoms, it is important to recognise the existence of the intestinal lesion, because at any time this may become suddenly a source of danger.

2. In all cases of enteric fever, during the third and fourth weeks, we must never omit to enjoin upon the patient's friends the necessity of maintaining absolute rest of body, and of abstaining from solid food and the use of purgatives.

Art. 58.—*On the Nature of the Intestinal Lesion of Enteric Fever.*

By T. J. Maclagan, M.D., of Dundee.

(*British Medical Journal*, April 22.)

At a meeting of the Medico-Chirurgical Society of Edinburgh, on March 15th, Dr. Maclagan read a paper on the Nature of the Intestinal Lesion of Enteric Fever. The chief facts or propositions brought out he summarized as follows:—1. The intestinal lesion of enteric fever is specific in character. 2. It may terminate in resolution or ulceration. 3. When it goes on to ulceration there are two sets of lesions, primary and secondary. 4. The former are an essential part of the disease. 5. The latter are accidental, and the result of the inoculation of healthy glands by discharges coming from the former. 6. The recognition of these two forms of lesion is necessary to the explanation of the diverse phenomena of the disease. 7. Their relative frequency varies in different cases. 8 The extent of the primary lesion bears a direct relation to the severity of the attack. 9. That of the secondary bears no such relation, they being more likely to predominate in cases in which the general symptoms are mild, and the primary lesions few. 10. One primary lesion is sufficient to produce, directly or indirectly, many secondary. 11. The higher up in the intestine the primary lesions are situated, the more numerous, *cæteris paribus*, will be the secondary. 12. Fatal abdominal symptoms are more often the result of secondary than of primary lesions. 13. Relapses are caused by a reabsorption of the poison into the system, probably by one or more absorbent glands which escaped during the primary attack. 14. Constipation is to be regarded as a source of ultimate danger. 15. No one suffering from enteric fever should go more than two days without a stool.—Dr. Sanders, after complimenting the author on his paper, stated that the expressed view

as to the inoculability of the fever did not altogether explain the predominance of lesions at the lower part of the small intestine, also the variety of the affection of the glands of the cæcum.—Dr. Bennett referred to the researches of Mr. Goodsir in 1842, as showing that the different morbid appearances observed were really different stages of the same lesion; also to the observations of Dr. William Budd, of Bristol, on the subject.—Dr. Matthews Duncan and Dr. Maclagan also made observations.

Art. 59.—*Cases of Syphilitic Enteritis.*

By Dr. Oser, of Vienna.

(*Archiv für Dermatologie und Syphilis*, iii. 1, p. 27, 1871; *Schmidt's Jahrbücher*, No. 3, 1871.)

"A man, aged fifty-one years, who, with the exception of an attack of syphilis, had previously been quite healthy, robust, and well-nourished, had suffered for six months previous to his admission from tabetic weakness of the limbs; digestion was tolerably good, there was some constipation but no abdominal pain. As he was undoubtedly suffering from syphilis an antisyphilitic treatment was carried out. After a few days the patient suddenly died.

"Post-mortem examination revealed a thin bony plate in the dura-mater, thickening and congestion of this membrane and of the brain itself, pulmonary œdema, fatty deposit on the heart, the muscular tissue of which organ was flabby and of a fawn colour. There was thrombosis of the pulmonary arteries, the liver was slightly lardaceous; the gall-bladder contained a calculus, and its posterior wall was perforated. The spleen was enlarged, firm, translucent, and lardaceous. The mucous membrane of the stomach was injected, swollen, and studded by numerous hæmorrhagic erosions, and the layers of the small intestine from the lower portion of the juguarum to the ileo-cæcal valves at the part corresponding to Peyer's patches, were infiltrated by reddish-grey masses which felt like parchment; the transverse folds were stiff and spread out. In the centre of each infiltrated part was found a loss of substance of almost the size of a kreuzer-piece, polygonal in shape, with its longest diameter parallel to the long axis of the intestine. The base of this ulcer was formed by the submucous coat, which was thickened and lardaceous. The margins of this loss of substance passed down gradually to the base. The peritoneum corresponding to these ulcers was swollen, injected, covered by a thin layer of false membrane, and traversed by enlarged lymphatics, which were filled with thick and pale-yellow lymph; scattered among these lymphatics were numerous tubercles. The mesenteric glands, though firmer than in their normal condition, were not much swollen. Both kidneys were large and congested, and slightly lardaceous. The spinal cord appeared to be extremely thin, and the cervical and lumbar enlargements were reduced; the lateral columns presented signs of grey degeneration.

"On microscopic examination of the diseased intestine, profuse growth of round delicate cells, partly filled with fat, could be made out; these cells, on the addition of acetic acid presented nuclei. This growth of cells, which was strictly limited by the healthy mucous membrane, involved all the layers of the affected mucous membrane, chiefly the submucous connective tissue; at the situations of the ulcers found in the centre of each infiltration the

villi were reduced in size or altogether absent, whilst in other situations they were generally present. At the base of each ulcer were small masses of connective tissue, between which numerous rounded cells were imbedded, as also between the muscular fibres; at some places the muscular fibres were thrown together by heaps of cells, and converted in molecular masses. On oblique section of the much-thickened peritoneum were found cells massed about the enlarged and thick-walled vessels. On longitudinal section at places where enlarged lymphatics and tubercles could be observed with the naked eye, were seen under the microscope large and sharply-defined masses of cells which were connected with the lymphatics. Vessels could be seen leading to and from these masses, which were also filled with cells similar in appearance to those composing the tubercular masses visible to the naked eye."

That this intestinal affection was of a syphilitic nature, Dr. Oser proves by the exclusion of other diseases that cause similar affections. Tuberculosis could not be regarded as the cause of this infiltration, since, on the one hand, not a single trace of the disease was presented in any other organ, intestinal tuberculosis being very rare even; and, on the other hand, microscopical examination revealed no histological changes resembling those caused by tuberculosis. Neither could the intestinal affection be attributed to typhus, since neither during life nor on post-mortem examination was anything found that might serve as a support for this view; in like manner, all symptoms indicating leucœmia as a cause of the disease were absent. In favour of the syphilitic nature of the intestinal affection there was the undoubted fact that the patient had had an attack of this disease, and also the analogy presented by this affection to other syphilitic lesions, especially those of the skin—an infiltration that commences to soften in the centre, whilst round about the softening portion the infiltration continues to extend. The softening was neither purulent nor caseous in character, but, as is generally the case in syphilis, rather a necrosis of the tissues.

Two other cases of enteric disease occurring in syphilitic subjects are reported in this contribution. One patient was an eight months' child, who died ten days after delivery; the other was also an infant, who lived for eighteen days.

In all three cases the calibre of the intestine was found to be contracted by numerous firm annular indurations, varying in size and generally corresponding to Peyer's patches, or the solitary follicles. These indurations consisted in cell-infiltrations, with more or less new formation of connective tissue, involving all the layers of the intestinal wall, but chiefly the submucous layer. In the first case there was much cellular infiltration in all the layers, whilst the new formation of connective tissue was less striking. In the second case the latter change was very marked, and in the third the cell-infiltration appeared to be much less extensive. Dr. Oser considers this new formation of connective tissue to be the chief characteristic of the disease, and one indicating its chronic course. From this point of view, the first case appears to show a less advanced stage of disease than the third or the second cases. The mucous membrane of the intestine is but slightly affected, or it undergoes necrotic degeneration of its structure over small portions corresponding to the infiltrations, the bases of the ulcers thus formed becoming glistening and lardaceous.

Art. 60.—*The Pathological Relations of the Gastric and Intestinal Tubules.*

By Austin Flint, M.D., Professor of the Principles and Practice of Medicine in the Bellevue Hospital Medical College.

(*New York Medical Journal*, March.)

At a meeting of the New York County Medical Society, on February 13th, Dr. Flint read a paper on the above subject.

Premising that the histological facts he should present had been drawn exclusively from three English observers, Handfield Jones, Wilson Fox, and Samuel Fenwick, and that his own observations had been made from a clinical and physiological point of view, the speaker said that for many years he had been firmly convinced that the secretory glands of the alimentary canal constitute a territory where important discoveries in pathology are to be made; that it had seemed to him a rational supposition that destructive lesions of these glands exist in a class of cases characterized by progressive and fatal inanition, taking place without the evidence of disease existing elsewhere sufficient to explain the symptoms and their termination. This view he had often expressed, predicting that the microscope would ere long be found to establish it. He would first relate the cases which had fallen under his observation; next present the histological facts referred to; and finally offer some considerations relative to the pathological importance of the gastric and intestinal tubules, not only in the cases where their lesion might be regarded as essentially constituting the disease, but also in affections where such lesion might hold a subordinate place.

Four cases were now related. The first was that of a strong man, sixty years old, of unexceptionable habits, free from previous disease except occasional gout, always a good feeder. With no assignable cause of disease beyond some domestic annoyances, he began to lose appetite, and gradually reduced his diet until it consisted chiefly of liquids. Without other symptoms to lead him to consider himself sick, the anorexia increased till it became complete, and his strength failed till he had to keep his bed from sheer weakness. At this point he came under the speaker's care. No sign of disease could be found in any organ. But the repugnance to food grew extreme; various tonics and stimulants were given with no benefit; and the patient died, clearly of inanition. There was at no time any febrile movement. The intellect, naturally powerful, remained clear until a day or two before death. The other three cases were in all essential respects the counterparts of this one. In one of them there was vomiting after food, but without evidence of cancer, ulcer, or gastritis. In another there was diarrhœa, but from intestinal indigestion, not ulceration or inflammation. All four were males near sixty years of age. The speaker had also, in consultation with Dr. Barker, seen two analogous cases in females of about the same age. The kind of food against which the stomach first or most strongly rebelled was not recorded in the above cases; but in one of them, certainly, animal food was given up long before the patient took to his bed; and in the others the doctor thought the aversion had

been greatest toward the albuminous articles of diet. The question was important as bearing on the localization of the affection, either exclusively or chiefly, in the gastric or in the intestinal tubules.

The close resemblance of these cases, in many respects, to those described by Addison as examples of "idiopathic anæmia," and attributed by him to lesion of the supra-renal capsules, could hardly fail to be noticed. The term "Addison's disease" had commonly been restricted to such of the cases as were attended by a bronze hue of the skin; though Addison himself regarded the melasma as non-essential, considering the anæmia to be the leading feature. But anæmia alone would not account for the fatal termination in these cases; there must be something more than a deficiency of red corpuscles to explain this; and it seemed reasonable to seek the explanation in a deficiency of essential nutritive constituents from non-assimilation. Had Addison's microscopic researches taken the direction of the gastro-intestinal tubules, he would probably have found a more satisfactory solution of his perplexing cases than in the disease of the supra-renal capsules, which, as he says, he "stumbled upon." These ideas, the speaker had advanced in a lecture published upwards of ten years ago (*Am. Med. Times*, Sept., 1860).

The following summary of the constitutional symptoms in Addison's disease, quoted from Greenhow's Clinical Lectures, might be taken as a fair epitome of those which, in the speaker's opinion, characterize destruction of the gastro-intestinal tubules.

The constitutional symptoms are: Gradually progressive asthenia, often originating without any apparent cause, and seldom dating from any definite period; great languor and indisposition for exertion, with, in advanced cases, breathlessness and palpitation, frequent sighing or yawning, and general faintness on making any muscular effort, sometimes even on being raised up in bed. There is almost invariably great weakness of the heart's action, and remarkable feebleness of the pulse; loss of appetite; irritability of stomach, with nausea; and, towards the close of the illness, at least occasional, often persistent, vomiting. The mind is generally clear to the last; but so great is the prostration in the latest stages of the disease that the patient often lies in a drowsy, apparently semi-comatose state, from which, however, he can be roused by questions, and to these he generally gives pertinent, though slow and reluctant, answers. The above I should class as the most characteristic symptoms of the disease; but there are in many cases pains in the loins, hypochondria, or epigastrium, and, more rarely, dimness of sight, vertigo, and, near death, a tendency to incoherence or delirium. Death takes place from asthenia, and often rather suddenly.

Here is evidence, certainly, of something more grave than anæmia; but, assuming that Addison's cases really belong to the class under consideration, the anæmic condition must be noted as a very prominent feature in this class. Two cases were cited from the speaker's hospital experience in New Orleans, essentially similar to those before related, except that they were characterized by an exteme degree of anæmia, and that the patients, both males, were only about thirty years of age.

To establish the theory, above set forth, of the pathology of the class of cases described, it was obvious that "the existence of lesions more or

less extensive and destructive (of the secretory glands of the alimentary canal) must be demonstrated by microscopical examinations after death; the abnormal changes must be shown to be morbid, that is, not cadaveric; and their constancy in this class of cases must be established by a sufficient number of necroscopical examinations."

In the *Lancet* of July 16, 1870, Dr. Fenwick had published a case, which was probably the first on record, where the diagnosis of disease of the gastric tubules had been made, and verified by autopsy. This case was quoted at length. It was that of a gentleman, about forty-five years of age, who presented a train of symptoms similar to those given above—progressive anorexia, with flatulence, and occasional vomiting; progressive muscular weakness and disinclination to mental effort; not much emaciation, but extreme pallor, with the sallow colour characteristic of malignant disease; palpitation and breathlessness on exertion; great feebleness of pulse. There was nothing in the history, the symptoms, or the results of a most thorough physical exploration, including microscopic examination of the blood, to explain the anæmia which seemed to lie at the foundation of all the trouble. As there had been no disease capable of producing the anæmia directly, it must be dependent on some fault in the organs of absorption or of blood-preparation. The absence of emaciation showed that starch and fat were well digested and absorbed; "we had, therefore, only to examine the condition of the organs whose office it is to digest and prepare the albuminous materials of the food—namely, the stomach and ductless glands. There was no evidence of any affection of the spleen, thyroid, thymus, or lymphatic glands; and the absence of any dark discoloration of the skin seemed to negative the supposition that the supra-renal capsules were diseased. I therefore concluded that the stomach must be the organ in fault; and as atrophy is the only morbid condition which is not accompanied by characteristic local symptoms, I diagnosed atrophy of the gland-structure as the only disease present in the case."

The post-mortem examination was negative, except as regarded the stomach and the upper portion of the small intestine, which were examined microscopically. The stomach was empty, excepting a little gas, and showed no sign of post-mortem digestion. The pits on the mucous membrane were well-defined, rather larger than usual. "The whole of the glandular structure of the organ was in a state of atrophy; in no part could I succeed in procuring a section of normal tissue. In the pyloric and middle regions the secreting tubes seemed to be converted into a mass of connective tissue; and it was only near the cardiac end that a trace of gland-structure could be observed. In this situation the gastric tubes were represented by scattered flask-like bodies filled with granular matter and fatty epithelial cells. In other places the ends of the tubes were expanded. Each of these was surrounded by fibres, and was lined internally by a layer of cells, the contents consisting of fat-cells and granular matters. Brunner's glands were unusually large. The villi of the upper part of the intestine were large, prominent, and contained fat. The fat, however, was not in the form of an emulsion, but appeared in large drops in the interior of the villi." All suspicion of post-mortem digestion was removed by the empty state of the stomach, and the fact that the surface of its mucous membrane was healthy. To

guard against errors of observation, the specimens were submitted also to Dr. Handfield Jones. The results of the microscopic examination were confirmed by the experiment of submitting a piece of hard-boiled white of egg to the action of an infusion of the gastric mucous membrane, with hydrochloric acid, under proper conditions. At the end of nine hours it had not lost in weight, and was only slightly softened on its surface.

"The post-mortem examination thus explained the symptoms under which the patient laboured. The progressive atrophy of the stomach had prevented the digestion of the albuminous materials of the food, at the same time that the healthy condition of the liver, pancreas, and intestines admitted of a free supply of other constituents of the body. We know that the intestines possess some power of digesting albumen, and in many instances they no doubt compensate for a diminished action of the stomach; but in the present instance they seem to have been incapable of maintaining life."

Dr. Flint regretted that the tubules of the small intestine had not been examined throughout. They were inferred to be healthy from the absence of emaciation, showing digestion of non-nitrogenous food; but apart from the desirableness of having this inference confirmed by direct observation, their normal condition would have been evidence that the changes in the gastric tubules were morbid and not cadaveric. Assuming the appearances to be correctly interpreted, the importance of this case was hardly to be estimated. If a sufficient number of similar observations should establish the constancy of such lesions in the class of cases which seemed clinically so well-defined, then we should have discovered a new disease, or rather a group of diseases; for probably one set of tubules might be affected without the other, and the lesions might differ in kind as well as in degree and extent. Moreover, there was reason to believe that lesions of these glands are often associated with other diseases, and that their functional derangement contributes more largely to the morbid phenomena of those diseases than has hitherto been recognised.

Handfield Jones, in a paper published in *Med.-Chirurg. Transactions*, 1854, and expanded into a monograph published in London, 1855, entitled, *Pathological and Clinical Observations respecting Morbid Conditions of the Stomach*, gives the results of his examination of one hundred stomachs, healthy and diseased, taken without selection. He recognised the following different lesions:—1. Atrophy from pressure upon the tubes by an intertubular deposit which he calls "nuclear," and, also, from a fibroid formation. He considers the latter as similar to the lesion in cirrhosis of the liver. 2. Granular and fatty degeneration occurring without intertubular deposit or fibroid formation. 3. Pigmentary deposit both within and between the tubes. 4. Cystic formation. 5. Mammillation, which he attributes to atrophy limited to certain points, and which he regards as analogous to the granular condition of a wasted kidney. The mammillations are the parts where most of the natural tissue remains. Dr. Jones does not seem to have realized the importance of these conditions in determining the phenomena of disease, although an examination of his tables affords some evidence in favour of the views that have been presented.

Wilson Fox* made a similar series of one hundred examinations of non-selected stomachs. He considers the deviations from the normal structure to be of six kinds, as follows :—1. Increase of the connective tissue between the glands, and of the submucous tissue, with occasional fatty degeneration of the latter. 2. Thickening of the membrana limitans of the glands. 3. Fatty degeneration or atrophy and loss of the glandular epithelium. 4. Pigmentary deposit in the tissues. 5. Cystic degenerations in the glands. 6. Occasional fatty degeneration of the vessels.

Dr. Fenwick† found the gastric tubules frequently diseased and destroyed in cases of cancer, particularly cancer of the breast. The lesions were the same as those described by Jones and Fox—disappearance of the cells, granulo-fatty degeneration, and atrophy from pressure of enlarged solitary glands, or from increased formation of fibrous tissue. He noted also marked thinning of the mucous membrane, and diminution of its digestive power when tested as in the experiment before described. In concluding his memoir he says that the practitioner "will see in these alterations in the blood-making organs an explanation of the anæmia that so often ushers in and accompanies malignant disease, and he will be encouraged to hope that means may be discovered to arrest the progress of these alterations, or obviate their effects upon the system."

In the stomachs of patients dead of scarlatina, Dr. Fenwick‡ found that, where death had occurred in the first week of illness, the tubes were "greatly distended by granular and fatty matter, or by small cells intermixed with granules." After the second or third week the tubes were less distended than at an earlier period, "their closed ends being still loaded with granular matter, obscuring greatly the gastric cells." In the matters vomited in one of these cases, in the third week, fibrinous casts of the tubules were discovered. The contents of the stomach, after death, were examined in all the cases. Where death occurred during the first week, they contained "pieces of fine membrane, cells, granules, and shreds of membrane." "The membranes were of the shape and size of the stomach tubes, and were covered with granules and fat." "In the cases of longer duration the membranes were covered with cells, and were also of the size and shape of the stomach tubes." As a check upon these appearances, the contents of the stomachs of forty-five non-scarlatinous patients were examined, and in only one—a case of acute gastritis—were there any fibrinous casts. In several cases of non-scarlatinous gastritis casts had been found in the matters vomited. "In eighteen cases there were either plugs formed of cells and granules from the secreting parts of the tubes, or the casts of conical cells were overlaid with granular matter; and in all these cases the stomach was more or less inflamed."

The labours of these observers were considered by Dr. Flint sufficient to establish the fact that the gastric tubules may be found more or less diseased in subjects dead of various affections, and that the frequency and extent of their lesion differ widely in different affections.

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* Contributions to the Pathology of the Glandular Structures of the Stomach, in *Med.-Chirurg. Trans.*, 1858.

† Morbid Changes in the Stomach and Intestinal Villi present in Persons who have Died of Cancer, in *Med.-Chirurg. Trans.*, 1865.

‡ *Lancet*, July 23, 1864.

The concurrenee of the results of the three observers, and their agreement with what we know of renal pathology, were strong proofs of their correctness. But further observations were imperatively demanded to enable us to discover the relative frequency of occurrence of these lesions in different affections, and especially the clinical phenomena attending them. It would seem, from the beginning already made in the examination of matters vomited, that the microscope might yet be made as available in the diagnosis of gastric disorders as it has proved itself in those of the kidney. The study of the pathology of the intestinal tubules was as yet hardly begun.

It might seem strange that a subject of so much importance had received so little attention. But it was only recently that the anatomy and physiology of these glands had been understood; and their pathology was now no more imperfect than was that of the kidney before the publication of Bright's researches in 1827. What a large place in pathology had the minute changes in the kidney come to occupy within the last twenty-five years, and what might not the next twenty-five see determined with reference to the pathological relations of the gastric and intestinal tubules! The pathological importance of these glands might be fairly measured by their physiological activity. The tubules of the stomach secrete fourteen pounds of gastric juice in the twenty-four hours, and those of the intestine vastly exceed them in number, though we have not the data for determining the amount of their secretion. These, with the other digestive fluids, standing at the very portals of vegetative life, and taking the initiative in the processes by which aliment is converted into the blood and the tissues, it is evident that "the glands which secrete the essential factors in digestion cannot be extensively diseased without giving rise to impoverished blood, impaired nutrition, diminished muscular strength, weakness of the mental powers, and various abnormal conditions incident to these effects." Disease of these alone may be sufficient to cause death from inanition, and the dangers of such disease are of course enhanced by its association with other affections.

Doubtless in many fatal cases of other affections, where the discoverable mischief is insufficient to account for death, the explanation should be sought in the glandular lesions here considered. Fenwick had pointed this out in cases of cancer, and it was as eminently probable in some cases of phthisis. Experience had taught us that in these, as in other chronic affections, the tolerance of the disease depends, other things being equal, on the ability to ingest, digest, and appropriate food.

With our present knowledge, the characteristic symptom of this affection would seem to be persistent loss of digestive power, with anorexia finally becoming so great as to make the taking of food impossible—as impossible as in the temporary complete anorexia of a full stomach. Whether this aversion is commonly directed against particular classes of food would demand careful study. It might be conjectured that where the gastric glands were solely or chiefly affected, it would be the nitrogenous articles which could not be taken, as in Fenwick's case, and commonly in Addison's cases of "idiopathic anæmia;" and that where the intestinal glands were mainly involved, it would be the non-nitrogenous articles, when we should probably find greater emaciation than in the former case.

(E) CONCERNING THE GENITO-URINARY SYSTEM.

ART. 61.—*Eneuresis, and its Treatment by a New Remedy.*

By JOHN BARCLAY, M.D., late Assistant-Professor of Materia Medica and Medical Jurisprudence in the University of Aberdeen.

(*Medical Times and Gazette*, December 17, 1870.)

After alluding to the great variety of causes which have been set down as productive of incontinence, Dr. Barclay says, as regards the treatment, there is even more variety here than in the causes, and this is sure evidence that most of the remedies and plans of treatment proposed have given small satisfaction. These may be described under four heads—the "constitutional" remedies, or those calculated to operate on the disease through the system, by correcting some ascertained fault therein; the "normal" treatment; the different "mechanical" means which have been at various times brought forward; and the very numerous class of "specifics."

The "constitutional" embrace means taken to correct over-acidity or over-alkalinity of the urine, if either of these states exist; attention to the diet and regimen, more especially to the regulation of the quantity of drink taken at any particular time of the day or evening; tonics of various kinds, as tincture of iron, strychnine, and cod-liver oil; anti-gouty remedies, if an evidence of this disease is observed; the removal of ascarides from the rectum; cold sponging to the back and loins, and hot baths at bed-time.

The "moral" treatment includes attempts to correct bad habits, by insisting on the patient emptying his bladder thoroughly before going to bed, rising two or three times during the night, and observing regular times of micturition during the day. And then we have, by some injudicious people, a plan recommended, which may be classed either under the "moral" or "mechanical" head—the plan of castigation. This is a method of treatment only to be mentioned to be condemned.

The "mechanical" means proposed comprehend Sir Dominic Corrigan's plug of collodion, which he recommends to be applied to the orifice of the prepuce, thereby preventing the egress of the urine until the plug is removed, and which, he says, is usually sufficient in about a fortnight to effect a cure. Next, we have Pluviez's compressing pads; Trousseau's urethral truss applied to the perineum; the application of an elastic band round the penis; the tying a reel on the back so as to compel the patient to lie on either side; circumcision where the prepuce is too long; the mechanical dilatation proposed and practised by Dr. Braxton Hicks, by the injection of warm water into the bladder, when the viscus is contracted; and the practice recommended by some one of passing a small silver catheter every evening.

The "specific" remedies in which most confidence is placed are—belladonna and its active principle atropia; bromide of potassium, alone and with syrup of poppies; cantharides; benzoic acid, where the urine is high-coloured and of strong odour; zinc; camphor, and secale

cornutum. Besides these, we have a host of others, as—lupulin; large doses of nitrate of potass; the inunction of morphia and veratria ointment into the perineum; the application of astringents, such as rhatany, tannin, and iron, to the sphincter vesicæ, recommended by Oppolzer; drop doses of tincture of iodine every two hours, lately recommended by Dr. Schmidt, which it seems did good as long as the medicine was continued, but which, when omitted, left no permanent benefit; blisters to the saerum; nitrate of silver to the prostatic urethra, and the same substance to the urethral orifice. Dr. Barclay has tried several of the above remedies, and, before he stumbled upon the syrup of the iodide of iron, found atropia or belladonna by far the most certain and trustworthy. Tincture of iron is much employed, but after frequent and persevering trials with it, he has been always disappointed. During the past two years and a half, twenty cases of incontinence of urine have been treated by him; the medicine invariably prescribed has been syrup of the iodide of iron alone, and, so far as he knows, there has been no failure. Dr. Barclay has notes of all the cases, but only eleven in a completed state, since the other nine, who came from a distance, did not return to say what was the result. The probability is that they were cured, otherwise they would not have been got rid of so easily. Uncured cases are those that return upon our hands. At all events, the eleven who did report themselves, or who were continually under observation, were all cured, the improvement in several of the cases following so closely on the administration of the remedy as to leave no doubt but that the good effect was due to the syrup. Dr. Barclay mentions that Dr. Manson, of Banff, and Dr. Smith, of Kinnairdy, have both found the medicine equally satisfactory. Dr. Smith says that he tried it only a fortnight ago, in a boy who for a long time had been a sad martyr to both diurnal and nocturnal incontinence, and who had resisted all other remedies, but upon giving him the iodide, in two or three days he was all but well.

Art. 62.—*A Third Communication on the Endemic Hæmaturia of the South-eastern Coast of Africa, with Remarks on the Topical Medication of the Bladder.**

By John Harley, M.D., F.R.C.P.

(*Medical Times and Gazette*, December 3, 1870.)

An almost daily opportunity of watching a case of this disease for nearly a year enables the author to give precise information concerning, firstly, the prostatic form of the disease and its treatment; and, secondly, the structure and development of the parasite. The prostatic form of the disease is attended by an intermittent discharge of venous blood, never exceeding a teaspoonful, and always mixed with urine, recurring after variable intervals of from two to fourteen days, and continuing for

* Abstract of a Paper read at a Meeting of the Royal Medical and Chirurgical Society, November 22, 1870.

several days in succession. The morbid appearances are confined to the last tablespoonful of urine, which contains the blood and casts (composed of mucus or blood) of the passages in which the parasites lie. Apart from the passage of blood and the egg-bearing casts, there was no inconvenience—no impediment to the flow of urine, nor the slightest irritation of the genito-urinary apparatus. The treatment was at first general, consisting in the use of such remedies as iodide of potassium, henbane, &c., which are eliminated unchanged by the kidneys. This general treatment affected the parasite to a limited extent only, and was, therefore, supplemented by local medication in the form of injections of strong infusions of wormwood and quassia, emulsions of oil of male fern in these solutions, and of solutions of iodide of potassium and some other salts. The author describes the effect of each of these drugs, and relies most of all on iodide of potassium, which was given in quantities varying from ten to thirty grains, in five ounces of infusion of quassia, as a daily injection. Evidence of the absorption of this remedy was manifest, and the effect was very beneficial; and by the intercurrent use of injections of oil of male fern, the parasitic products with which the tunnels in the mucous membrane are stuffed were thrown off, and the parasites destroyed. Morbid products, including portions of the adult animals, and laminated corpuscles, derived from the prostate, are figured and described. With a view to its detection in the waters of the infected districts, the author has very carefully described and delineated the embryo of the parasite, which is a little ciliated animalcule, strongly resembling some of those found in stagnant water in this country. He says:—"I have several times succeeded in liberating simultaneously from the egg as many as twenty embryos, and watched their movements in a drop of water under the microscope. No sight can convey either a more vivid impression of the activity of animal development or a more complete realization of the energy of parasitic life. It is an interesting display, but its general attractiveness is certainly not increased by the unavoidable reflection that the tissues and fluids of the human body may readily become the abode of these lowly animals." Experiments were made to determine whether the parasite may be developed from ova introduced into the body. From negative results, and from other facts, the author concludes that, as a rule, this does not happen, from some cause which prevents, or too long retards, the liberation of the embryo from the egg. He is, however, inclined to think that, if the hatching be timely effected, or if the liberated embryo be artificially introduced into certain parts of the body, more especially the blood-vessels, its further development into the adult parasite may proceed. As to the primary mode of invasion, the author mentions the fact that the colonists of the infected districts are early attacked by a peculiar kind of boil, which passes into an indolent ulcer, and which, ultimately healing, leaves a large and indelible scar. He thinks it very probable that these boils result from the insertion of ova beneath the skin in the act of bathing, and that the subsequent progress of the ulcer, and the infection of the genito-urinary organs, is due to the liberation of embryos (which may readily occur upon the naked surface of an ulcer), and their convection or ascent to the pelvic organs along the veins that lead to them.

Art. 63.—*Intermittent Hæmaturia.*

By W. B. Kesteven, F.R.C.S.

(*The Lancet*, December 31, 1870.)

Attention having lately been called to the subject of paroxysmal hæmaturia, Mr. Kesteven has thought that the following case, which came under his notice some five-and-twenty years ago, in his dispensary practice, might be worth putting on record.

A collector of rags and bones, about thirty years of age, of not very temperate habits, had suffered for some time from general malaise and weakness, with pain in the back and voiding of blood in his urine. His skin was of a sallow complexion, and he had rigors occasionally. Mr. Kesteven's treatment failing to do him any good, he asked the opinion of the late Dr. Humphrey Sandwith, who was then living in London, and was consulting physician to the Holloway and North Islington Dispensary. Looking to the intractability of the case, the existence of rigors, and the aspect of the patient, Dr. Sandwith was led to suspect the presence of malarious influence. No clear history of ague could be made out, but quinine was administered with speedy benefit. This patient applied once or twice in subsequent years, with the same symptoms, and with the same result in the matter of treatment. Mr. Kesteven has long since lost sight of him. So far as he can remember, there was no enlargement of the spleen. This case came under Mr. Kesteven's notice at a time when he was not fully impressed with the importance of microscopical investigation in disease; the blood, therefore, was not examined microscopically, but the presence of albumen was ascertained more than once.

Art. 64.—*Diagnosis by Examination of Urine in Obscure Forms of Urinary Disease.*

By Sir Henry Thompson, Surgeon and Professor of Clinical Surgery to University College Hospital.

(*British Medical Journal*, January 7.)

The proceeding may be described as follows:—A No. 6 or 7 flexible catheter is introduced into the bladder while the patient is in the upright position, and the urine drawn off is placed in a vessel apart. By means of an elastic gum-bottle containing a few ounces of warm water, the bladder is washed out two or three times, with about an ounce or two at a time, until the outflowing fluid is perceived to be quite clear. The catheter being left *in situ*, fresh urine from the kidney, untainted by any admixture, will now pass by drops into a test-tube placed to receive it; and a specimen, therefore, of true renal secretion, unqualified by vesical products, will be furnished in about five minutes, sufficing for a chemical analysis, and useful to a certain extent for microscopical observation By this simple process Sir Henry Thompson has been

enabled to solve the question of disease of the kidneys in some cases in which hitherto doubt as to their implication existed; and has often had the satisfaction of demonstrating that the secretion obtained direct from the organs was absolutely free from any sign of disease, where they had previously been suspected to be the seat of grave mischief. But there is one source of fallacy on applying this test, which is occasionally to be met with. If the bladder easily bleed with instrumental contact, as occasionally happens, the process may produce a slight admixture of blood in the urine so obtained, barely enough to tint it, but sufficient perhaps to occasion a considerable deposit to heat and nitric acid. It should never be forgotten, in estimating these products, that, for equal quantities of blood and pus, the former produces a much more bulky deposit of albumen than the latter. Of course, then, this disposition to slight bleeding, as a result of the procedure, and any augmentation of albumen so caused, is of itself strong evidence of vesical rather than of renal disease. Sir Henry Thompson says that the occurrence just named is one of rare occurrence.

Art. 65.—*Temporary Glycosuria as a Sequel of Cholera.*

By William Sedgwick, M.R.C.S., L.S.A.

(*Medical Times and Gazette*, Dec. 24, 1870.)

At a meeting of the Royal Medical and Chirurgical Society, on December 13, 1870, Mr. William Sedgwick read a Paper on Temporary Glycosuria as a Sequel of Cholera.

After a brief historical retrospect of the subject, the author remarked that in studying the character of the urine in cases of cholera, attention should in the first instance be directed to the fact that the first and albuminous urine passed or withdrawn after the usually prolonged suppression of the secretion was usually deficient in urea, and free from sugar; and that the subsequent condition of temporary glycosuria was preceded by the occurrence of a blue colouring matter, which appeared to be intimately associated with saccharine transformation. It was a significant fact that sugar in the urine occurred not, as a rule, in the first urine secreted after a more or less prolonged suppression, but subsequent to the occurrence of albumen; and that whilst there was during the early stage of cholera convalescence a relative deficiency of urea when albumen was present, sugar, on the contrary, was associated with urea in excess. The deficiency of urea which occurred in connexion with the albuminous urine of cholera was the more noticeable from the fact that, as the amount of urine secreted within a given time, after the previously complete suppression of it, was small, the proportion of urea should have been relatively increased if the development of that organic principle in the system had been uninterrupted; and consequently it might be suggested that as urea had been found to be one of the best diuretics, the suppression of urine which occurred in cholera and in allied conditions of the system resulting from poison or from disease, admitted of being directly referred to temporary arrest in the

formation of that excrementitial product. The production of the blue colouring matter in the urine of patients suffering from cholera was chiefly important from the fact that it was very closely associated with the development of glycosuria; the occurrence of sugar in the urine in such cases appearing to be simply a somewhat later stage in the series of pathological changes, which, so far as they affected the urinary secretion, could be traced to one common origin. Attention was directed to the frequency of the occurrence of a blue colouring-matter in the urine in a great many other diseases which, like cholera, admitted of being more or less directly referred to the alimentary canal; and it might be suggested as probable that, as sugar had also been found in the same class of cases, those two abnormally increased, if not altogether abnormal, constituents of the urine were due to the same cause, and derived from the same source. In reviewing the pathology of the urine in cholera, the chief facts to which attention should be directed, with reference to the occurrence of glycosuria, were—the suppression of the urinary secretion as a primary result of the disease, with arrested formation of urea; albuminuria, with deficiency of urea; the presence of a blue colouring principle; and finally, diuresis, with excess of urea and sugar in place of albumen. In the sequence of phenomena there indicated, urea as the essential principle of the urine necessarily occupied the chief position; and the subsequent presence of sugar during the stage of convalescence, when albumen was no longer present in the urine, suggested that the temporary glycosuria of cholera might be due rather to the progress of reparation than of destruction, and that it was, as it were, the result of an excess of restorative effort on the part of the system to repair loss from previous disease. This suggestion derived support from what occurred in diabetic patients during an attack of fever, when sugar in their urine was apt to be replaced by albumen; and by what occurred in the same class of patients during the last agony, when a similarly retrograde course with respect to the pathology of the urine was pursued—for in them also the urine became albuminous, and the sugar disappeared; and it was, moreover, supported by a large amount of collateral evidence which was almost conclusive in its favour. It would be found useful, in studying the character of the glycosuria which had been observed during convalescence from cholera, to take into consideration the various physiological, pathological, and artificially produced states of the system in which, as in cholera, sugar was commonly present in the urine without giving rise to confirmed diabetes. For temporary glycosuria, like the previous suppression of urine, had no claim to be regarded as an exceptional phenomenon, which was in any way characteristic of cholera; but, on the contrary, it would be found to occur during convalescence from other forms of acute disease, in which it was often associated with the previous development of a blue colouring principle in the urine. It would be found, also, to occur, apart from disease, as a physiological condition during certain stages of development, and at certain epochs of life. And, finally, that it admitted of being experimentally produced. With reference more especially to the occurrence of temporary glycosuria in the latter class of cases, as a result of sympathetic nerve-section, the author remarked that in all experiments of that kind the primary effect

produced must be on the vascular system to which the branches of the sympathetic nerve were distributed, and that any effect produced on other parts of the organism must be secondary to that. Consequently, whilst recognising vascular paralysis as the primary result of section of the sympathetic nerve in all parts of the system, it was important to notice that in the secondary results produced no such constant uniformity had been observed, since these were liable to vary according to the locality in which the experiment had been performed. He was of opinion that, with regard to the occurrence of temporary glycosuria as a sequel of cholera, there was no fact in experimental physiology more significant than that observed by Eckhardt in 1867, of the absence of sugar from the urine after section of the splanchnic nerves, which, taken in conjunction with the fact observed by Moreau in 1868, that section of those nerves was followed by an intestinal flux, possessing the same characters as the flux of cholera, indicated very clearly the direction in which the inquiry should be pursued. For when the neuro-paralytic condition of the digestive canal so produced was compared with what occurred after the influence of the central portion of the sympathetic nervous system had been artificially increased by the application of galvanism or electricity to the part during life, as shown in MM. Linati and Caggiati's experiments, it would be found that the results then obtained were essentially opposed to those which followed arrest or diminution of that influence either from section of the nerves or from cholera. In conclusion, the author remarked that the temporary glycosuria which had been observed in all the various cases which he had cited might be regarded as a consequence of long-continued and immoderate secretion, consequent on a previous diminution or arrest of the influence on the sympathetic or vaso-motory nervous system, which apparently occupied a position functionally midway between the secretory surface on the one side, and the supply of blood on the other, and thus became the moderator of secretion in virtue of its action as controller of the circulation. From his observations on the subject, he had been led to infer that all secretion was associated with saccharine transformation; and that whilst, on the one hand, an excess of secretion was accompanied by a corresponding excess in the formation of sugar, and consequent glycosuria, a moderate exercise of secretory function was, on the other hand, accompanied by a correspondingly moderate formation of sugar, which was not more in amount than could be disposed of in the system; and that it was only when the blood contained sugar in excess, from such causes as those which had been already referred to, that some of it was in consequence eliminated by the kidneys. Consequently it might be urged that the temporary glycosuria, which occurred as a sequel of cholera, served to show that during reaction from previous collapse there was a temporary excess of restorative effort; and that although, as was well known, an abortive attempt at reaction was in that disease a very common cause of death, yet in those cases of cholera which terminated favourably, and in which glycosuria had been observed to occur during convalescence, the subsequent disappearance of sugar from the urine might be accepted as evidence in favour of the normal balance of organic function having been satisfactorily restored, and that the tendency to excess during recovery from a central arrest of nutrition had ceased.

Art. 66.—*Inflamed and Contracted Bladder, the result of Exposure to Cold—Physical Examination—Cure.*

Under the care of Dr. J. Matthews Duncan, at the Royal Infirmary, Edinburgh.

(*Medical Times and Gazette*, December 24, 1870.)

The following case is reported by Dr. J. R. Hardie :—

M. B., aged forty-two, unmarried, admitted to Ward 16, Royal Infirmary, November 1, 1870.

Complaints.—Pain in the loins, occasionally shooting down the thigh and back of leg on micturition, and in urethra, in which last seat it is easier for a short time after making water, but returns and increases in intensity until patient again micturates. The patient also complains of inability to retain her urine for more than five minutes at a time.

History.—Patient is a farm labourer, her employment being carried on out of doors in all kinds of weather. She enjoyed good health until thirteen months ago, when, after a hard day's work in the rain, the above-mentioned symptoms appeared; they have increased in intensity up to the present time.

Physical Examination.—On passing a sound the bladder is found to be tender, unnaturally resisting and contracted, measuring only $3\frac{1}{2}$ inches from the orifice of the urethra to the fundus.

Urine.—Light coloured, with a mucous deposit. Reaction neutral. Sp. gr. 1018. Albumen $\frac{1}{10}$th. No tube casts.

Treatment.—Patient was ordered to have a warm hip-bath at bed-time, saline laxatives, morphia suppositories, a seton inserted over the symphysis pubis, and farinaceous diet, together with the following :— ℞ Acid. nit, hydrochlor. dil., ʒij.; tinct. hyos., ʒvj.; ext. pareir.. gr. xl., inf. pareir., ℥xij.; sig. ʒj., four times a-day.

Progress of Case.—November 20.—B. says she feels better, being able to retain her urine for about one hour, suffering less pain when voiding it. She sleeps better at night.

26th.—Patient expresses herself as being much better. She says that she can retain her urine for more than an hour and a half, suffers no pain when making water, and very little after it. On examination, the bladder was found to be softer and less tender than at last report, and to measure five inches. This improvement on physical examination fully corroborates patient's own statement as to her feeling of relief from the painful symptoms, &c.

Remarks.—On alluding to this case, Dr. Matthews Duncan observed that at the present time the diagnosis of diseases of the bladder was in an unsatisfactory state. The only method of putting it on a rational basis was by a physical examination of the organ by means of the sound. Almost nothing had been done in this direction as yet, but its employment yielded precise and valuable information. In this woman we now know the size of the bladder, its sensitiveness, and feeling of resistance. In a healthy vesical organ the sound can be passed to the extent of about six inches, measuring from the orifice of the urethra, without the patient exhibiting signs of discomfort; its walls also are soft, and yield-

ing somewhat to slight pressure from the sound. In the case before us the sound only enters three and a half inches; great pain is experienced by the patient on passing it, and when it is in the bladder; and the walls of that organ are hard and resisting. These symptoms indicate an inflamed and contracted state of the bladder.

(F) CONCERNING THE CUTANEOUS SYSTEM.

ART. 67.—*Lectures on Dermatology, at the Royal College of Surgeons.*

By ERASMUS WILSON, F.R.S., F.R.C.S.

(*Lancet*, February 4, 11, 18, 25; March 4 and 18.)

On Monday, January 29th, Prof. Erasmus Wilson gave the first of a course of lectures on Diseases of the Skin. He commenced by observing that last year he had taken a synoptical survey of cutaneous diseases, and he now proceeded to a demonstration of the specimens of skin affections contained in the Museum of the College, to indicate their pathological histories and relations, and the principles of their therapeutical management. There were 513 different objects, and they had been arranged in such an order as best facilitated their study, and conformed them to the ordinary divisions of pathological and physiological phenomena. The natural starting-point was common inflammation, and he proposed to arrange the whole under seven heads as follows:—1. *Diseases of common inflammation*, including (*a*) eczematous, erythematous, phlyctenous, furunculous, and traumatic affections. 2. *Diseases due to blood poisons*, including (*a*) exanthematous, (*b*) syphilous, and (*c*) elephantous diseases. 3. *Diseases of diathesis*—(*a*) leprous (lepra vulgaris), (*b*) strumous, and (*c*) carcinomatous. 4. *Diseases of function*—(*a*) trophopathic (errors of nutrition), (*b*) neuropathic, and (*c*) chromatopathic. 5. *Diseases of the epithelium*—(*a*) epidermic and (*b*) onychopathic. 6. *Diseases of the hair*—trichopathic. 7. *Diseases of the gland system*—steatopathic and hydrotopathic.

Speaking first of eczema, Mr. Wilson said he would define it shortly as "an inflammation of the skin attended by breach of surface." It presented, as shown by the models, a plurality of signs and lesions, ichoration, squamation, pustulation, &c., which were aptly expressed by terms in current use, and which were justifiable from the fact that no one particular stage or phase was predominant in actual cases of diseases such as the models represented. Mr. Wilson specially called attention to eczema erythematosum orbiculare and eczema erythematosum circinatum, the former made of orbicular patches denuded of epidermis, each patch being bordered by a broken edge of cuticle, like a frill; the other being composed of rings, the centres of which are pale instead of red, the margin above being red and fissured. To account for the difference was difficult.

He then proceeded till the close of the lecture to give the clinical features of eczema exfoliativum, or pityriasis rubra of Devergie, the dermatitis of authors, pointing out the characteristics as intense per-

sistent hyperæmia of the whole body, with the production and frequent throwing off of bran-like scales or flakes. One case was referred to in which about ten pounds weight altogether had been cast off in a month from the subject.

Mr. Wilson had caused enlarged coloured drawings of parts of the models to be made, and these, hung behind the lecturer, were very effective, and at once and readily enabled the audience to follow the description of the diseases, and to perceive the characteristic features, as given by the lecturer.

In the second lecture Mr. Wilson proceeded in his description of the several varieties of eczema, and directed attention, in the first instance, to a variety which had lately been well exemplified in a case under his care, and which deserved special recognition. It occurred in a man aged thirty-four, and assumed the erythematous form, consisting of puncta and small patches, seated chiefly on the body, but also on the limbs, and a uniform redness of the face, accompanied by itching generally over the body. The man had suffered from bronchitis, and certain liniments of a stimulating kind had been used, when the eruption broke out suddenly all over the body, and the neuralgic pains of which he complained in the chest subsided. The patches were made up of coalesced puncta, and were some one inch in length and two or three lines broad. The patches were abundant on the back, but slightly raised, uniformly red, some vividly so, and without desquamation or exudation; in fact, the case was one of monomorphic eczema. The patches were directed with their long diameters pointed downwards from the spine, then sweeping upwards to the front; indeed, the patches were disposed in lines corresponding to the course of the anterior spinal nerves, like zoster, or the spots of the leopard or tiger. Ten days subsequently the skin desquamated, and the disease left behind small circular patches, having the characters of eczema erythematosum orbiculare and circinatum, referred to in the former lecture.

Mr. Wilson then described eczema papulatum in its several aspects, in the congested, corymbose, and confluent forms; the confluent form being produced by the union, by congestion and infiltration, of the interfollicular portions of the skin. In the papulous eczemas, the presence of papules was the chief mark, but the other characteristic features might be present—*e.g.*, infiltration and crusting, or fissures exuding ichor, when what was called by Willan lichen agrius was present. The polymorphic form and the tendency to exudation marked the latter condition as not different from eczema. Attention was next directed to several models of eczema nummulare, and E. papulosum circumscriptum. The lecturer remarked that the development of the papules in groups was according to law, and took place under the influence of the nerves. He further observed that if it were said the various terms used to designate the several varieties of eczema were of no practical import, it might be replied that dermatologists are observing nature, and need scientific designations: whilst they reminded us that the same eruption was modified by locality, constitutional condition, and other circumstances, and their employment prevented us from error in diagnosis, enabling us to observe the relations of diseases that might otherwise be regarded as distinct affections, as in the cases of eczema

exfoliativum and lichen agrius. The Willanean type of eczema vesiculosum was next described, and the difference between dry and moist eczemas accounted for by the presence or absence of œdema, the latter giving rise to the outpouring of fluid with vesiculation, or free oozing from an abraded surface. In the young, and the lymphatic, fluid exudation was observed; in the cold, and subjects deficient in fluids, the eczema was of the dry variety. There is nothing specific in the vesiculation or the discharge of eczema, it was contended. The doctrine Mr. Wilson wished to impress on his hearers was that eczema is a simple inflammation of the skin, with variety in its manifestations, due to peculiarity of structure of the surface, constitution of the patient, and duration of the disease; that it might consist of hyperæmia, and exfoliation or ichoration and incrustation in addition, in consequence of the occurrence of exudation. Hence there were two main forms, moist and dry. The hyperæmia might affect the papillary plexus or the follicular plexus or both; it disturbed the nutrition, hence the exfoliation of cuticle. If exudation occurred the cuticle was raised into vesiculation, or there might be free oozing or abundant discharge of fluid of different characters, serous or purulent. The word "catarrhal" had been applied to eczema, which had been called catarrh of the skin, and this designation was no doubt correct. Lastly, Mr. Wilson gave a description of eczema squamosum, and pointed out that in chronic eczema of this kind the appearances of eczema erythematosum orbiculare and circinatum could be readily discerned in many cases.

The excellent models of the Dermatological Museum, and coloured enlarged drawings used in illustration by the lecturer, were all that could be desired to give due effect to his verbal description.

In his third lecture Mr. Wilson proceeded to describe the squamous forms of eczema under two chief varieties—viz., pityriasis and psoriasis, two leading features of eczema, hyperæmia and disordered formation (exfoliation) of the cuticle, being present in each case. Mr. Wilson explained that the term psoriasis had been applied erroneously to the lepra of the Greeks—our lepra vulgaris; but its application ought to be confined to the squamous phase of ordinary chronic eczema. Before proceeding to describe the secondary changes—which occur as the result of the continual hyperæmia in eczema—in the corium, giving rise to induration and hypertrophy of the corium and epidermal textures, Mr. Wilson passed in review the ground which he had already traversed, with the view of showing that the preparations at present in the museum illustrated the fact that there were transitional forms between the several varieties of eczema he had described; and he observed that eczema might be said to be not only erythematous, papulous, ichorous, squamous, pustular, &c., but also divisible into two chief types, the moist and the dry. These points were shown by a reference to the models and drawings. Passing on to note eczematous infiltration, thickening, induration, and fission, a series of preparations were exhibited, with a view of demonstrating—(*a*) the hypertrophy of the epidermis, which is often seen as a consequence of eczema, especially about the palms of the hands and the soles of the feet; (*b*) hypertrophy of the papillæ cutis, described by the French under the most misleading title of lichen hypertrophique, the term lichen, as Mr. Wilson observed,

being applicable to papules formed by the erection and inflammation of the follicles of the skin; (*c*) hypertrophy of the fibro-cellular tissues in the condition, termed false elephantiasis, but by Mr. Wilson denominated eczema spargosiforme, a variety of eczema which was termed in America, some years since, erythema papulatum et tuberculatum, to puzzle dermatologists, up to this time, until the present explanation as to its real nature; (*d*) hypertrophy of the nails, the part formed by the matrix being specially affected; and lastly (*e*) mucous eczema, in which a peculiar secretion was poured out upon the skin, forming a crust and covering over a softened and reddened base of integument, presenting much the aspect of mucous membrane. A favourite seat, however, of this disease is the lip, the surface being covered with an irregular light-yellow mask, as it were, of exudative matter, the mucous membrane not being ulcerated.

Mr. Wilson in his fourth lecture proceeded to speak of three other diseases which he includes under eczematous affections—namely, scabies, lichen, and impetigo. He observed that the lesion of eczema and of scabies were the same, the diagnosis of the two being made by the discovery of the acarus in the latter case. Scabies most often assumed the form of eczema papulosum, but not uncommonly of E. vesiculosum or pustulosum. Attention was called to the capabilities of plaster-of-Paris casting for the delineation of eruptions of the skin; as shown by the casts before the lecturer. The papule element of scabies, Mr. Wilson proceeded to point out, had been termed lichen; true lichen, however, was monomorphic. A drawing of the back of a man whose skin, irritated by a stimulant liniment, was covered over with red points produced by follicular inflammation, was exhibited as representing so-called lichen, and it was affirmed that had the applied irritant been more potent in operation, exudation would have followed, giving rise to eczema; in fact, the case showed that so-called lichen was a stage of eczema—an eczema papulosum. The diagnosis of true lichen should turn on the question whether it was an idiopathic affection or merely a part of a general disorder. Two instances of true lichen, in which papulæ form the only and permanent lesion—viz., lichen planus and marginatus—were described. Speaking of the forms assumed by varieties of different diseases, Mr. Wilson explained that they were accounted for by the anatomical distribution of lesions—the follicles in one, the papillary layer in another, the inter-follicular parts of the skin in another case being affected, &c.—and to the varying intensity of the case; conferted varieties of disease, resulting from the action of a general cause in great potency, discrete eruptions from the same cause in a weaker degree, localized disease being the result of local causes, patches being also accounted for by the implication of certain areas related to the distribution of particular nerves. The characteristics of lichen planus were said to be the occurrence of dull red papules, seated at the hair follicles, covered by very fine adherent scales, having a shining aspect and a flattened apex, which is depressed in the centre, where it exhibits a hilum plugged by epithelial matter and occasionally plugged by a hair. The disease leaves behind dull red stains, and is accompanied by much irritation. Lichen marginatus was described as a chronic inflammation of the follicles, accompanied by itching, of a

chronic course, having a predilection for the perineum and the fork of the thighs; the centres of the patches being dull and scaly, the border bounded by distinct papulation, the tissues being in some cases generally thickened. This affection, called Indian and Burmese ringworm, is the same as the eczema marginatum of authors, and Mr. Wilson did not attribute to it a parasitic origin. The lichen planus was regarded as identical with the lichen ruber of Hebra. The lichen urticatus of children Mr. Wilson regarded as allied to urticaria and as properly falling under the head of the latter. Impetigo was ranked as an eczema pustulosum, and in its sparse form affects the follicles; it might be regarded as a catarrhal folliculitis.

The treatment of eczema formed the subject of Mr. Wilson's fifth lecture. The local treatment was first discussed. Mr. Wilson explained to his hearers that the local symptoms in all the forms of eczema were essentially the same, differing in quantity and degree only. The chief symptoms were those of inflammation, and it is necessary to remember that the skin is in a state of excessive irritation, and the object should be to avoid, especially in the early stages, anything that increased this irritation. The chief remedies calculated to soothe the skin are flour, used freely from the dredging-box, a mixture of starch and oxide of zinc, with or without camphor, in addition to fuller's earth, lycopodium, and oatmeal. These powders should be freely applied, so as to form a constant coating to the morbidly sensitive skin. Sometimes these remedies do not agree. Then a lotion made of three drachms of calamine power, and the like of oxide of zinc, with two drachms of glycerine and six or eight ounces of lime-water, Mr. Wilson said, is often efficacious, and particularly where the surface commences to exude, and is irritable. The soothing plan of treatment should be kept up until the disease showed a tendency to lapse into the chronic stage, at which time the benzoated oxide of zinc may be regarded as the most efficacious medication. It should be used so as to form an impervious layer, and this layer should not be much disturbed by washings and cleansings. The benzoated oxide of zinc ointment Mr. Wilson regards as a "specific" for eczema in the advancing stages. He is in the habit of mixing with it a little spirits of wine in the proportion of a drachm to the ounce. The best guide as to the continuance of a remedy or plan of treatment is the patient's sensations as to comfort or discomfort produced. The soothing treatment is applicable as a palliative to the early and acute stages, or such as are characterized by heat and itching, or redness and moist excoriation. But a different kind of medication—one calculated to stimulate and rouse the tissues to a healthy action—is needed where infiltration and desquamation are the main conditions present. The zinc ointment will soften, heal cracks, and remove the scaliness in all cases; but something more is needed to meet infiltration. The best stimulant for the removal of deposit, and to rouse the tissues to activity, is soap. In the chronic cases soap should be freely used with such friction as will enable its action to influence the vascular tissues, the part after free soaping being dressed with zinc ointment. The direct consequence of the soap treatment is an exudation from all the tissues, which are emptied (by a repetition of the drain caused by the stimulation) of exudation. Potash, mercu-

rials, tar, croton oil, and strong nitrate-of-silver solutions, act in a similar manner. For pruritus, the best remedies are lotions of soda, and the like, of prussic acid, opium, and of hot water, but also drugs that act constitutionally upon the nervous system. For lichen urticatus and its itching, Mr. Wilson commended Hebra's prescription as a specific—viz., one ounce of soap, one ounce of pyroligneous oil of juniper, one ounce of alcohol, and five ounces of fluid. For the itching of lichen planus Mr. Wilson gives an emulsion of bitter almonds with bichloride of mercury or prussic acid. For eczema of the eyelids a weak nitrate of mercury ointment; for eczema of the scalp, nitric oxide of mercury ointment, with benzoated lard, in the proportion of one part in three; for dermatitis exfoliativa, the linimentum calcis.

A few remarks were made at the end of the lecture on the constitutional treatment of the disease, which varied with the age and constitution of the patient. In all cases eczema was associated with lowered vitality. In infancy invariably with defective nutrition and deficient feeding; in mid-life with mal-assimilation; and in late life with mal-assimilation associated with irritability, waste, and decay. Every cause of exhaustion occurring in the growing periods should be met and treated. The particular specific for eczema is, in Mr. Wilson's opinion, his well-known ferro-arsenical mixture.

The following is the formula:—

℞ Vini ferri, ℥iss.
Syrupi simplicis, ℥iij.
Liquoris arsenicalis, ℥j.
Aquæ anethi, ℥ij. Mix.
One drachm, with meals, three times a day.

The treatment of eczema infantile formed the topic of the concluding lecture. Mr. Wilson said it may be summed up in a few words. Every part of the inflamed surface must be coated over with the oxide of zinc ointment. The diet should be carefully scrutinized, so as to secure its nutritive capacity. Fowler's solution should be administered in doses of one or two minims with the meals, and the state of the bowels carefully regulated. In reference to any supposed derivative influence of eczema, there need be no more hesitation in the arrest of its discharges than would be felt in putting a stop to chronic diarrhœa. Nevertheless, there should be as little remission of caution in the treatment of this as of any other disease. Eczema infantile is often complicated with bronchitis, and it offers no safeguard against the usual convulsive diseases of children.

Eczema in childhood and youth demands a similar principle of treatment and similar care to that already prescribed for eczema infantile. The disease is often aggravated, and rendered persistent, by the defective regimen of schools. In adult life the predisposing cause of eczema may present a series of disorders and infirmities which demand our attention equally with the local affection. But there is no period of more interest than that of full maturity of the body, when eczema presents itself chiefly as a disorder of the digestive organs, or comes to us as an accompaniment of deranged function of the liver. In these latter examples it is no longer needful to search out the most nutritive diet,

but rather to shear it of its redundancy. The regulation of the digestive organs quickly induces an improvement in the eruption, and this is to be followed by tonic remedies, and, at a later period, notably by arsenic. It may be accepted as an axiom that whatever strengthens the body, and restores the health, will at the same time be the best cure of eczema.

Art. 68.—*Treatment of the Early (Congestive) Stage of Skin Diseases.*

By Tilbury Fox, M.D., M.R.C.P.

(*Journal of Cutaneous Medicine*, December, 1870.)

Dr. Fox states that for years past he has been dissatisfied with arsenic as an internal remedy in the majority of skin affections. Occasionally, no doubt, it acts magically; but in the mass of skin diseases, and in all save those of a scaly nature, it is only after long and tedious courses, and large quantities have been taken, that amelioration, if any, occurs. Hence it now rarely enters into his prescriptions. The action of the metal, so far as the skin is concerned, is upon its vascular supply; it tends to diminish congestion by restoring the tonicity of the vessels. But the researches of pathologists have shown that the starting-point of disease of the skin is sometimes in the nerves, sometimes in the cell-elements of the rete, or of the fibro-cellular tissue, or of the gland sacs. In these cases the vascular alteration is a secondary, not a primary condition, and our treatment should be directed to the primary condition. He thinks that it is too customary to employ irritant instead of soothing remedies in the early stage. He enumerates various diseases, as urticaria, acute general psoriasis, erythema of the face, and acne, lupus, lichen ruber, and eczema, in all of which it is advisable to employ soothing remedies in the early periods of the affection. A soothing treatment he defines to mean such as prevents congestion, and secures the exclusion of air from the diseased part. The access of oxygen is the great accelerator of changes in the inflammatory stages of skin diseases, especially when the cuticle is more or less destroyed or absent. The remedies that most effectually soothe, are baths of various acids, astringents, and powders, and simple non-rancid unguents, to which astringents are added. This kind of treatment, especially adapted for the exclusion of air, effects the securing of rest for the skin. He concludes by observing that it constantly happens that soothing remedies fail, where we should expect them to act satisfactorily. In such cases the conditions of the blood should be attended to, and renal or hepatic complications eliminated.

Art. 69.—*Remarks on the Rationale of the Action of Arsenic in Cutaneous Diseases.*

By John Cleland, M.D.

(*Journal of Cutaneous Medicine*, December, 1870.)

Dr. Cleland has found this remedy most useful in cases of eczema

and psoriasis in patients of a gouty and rheumatic diathesis, cases of psoriasis in conjunction with uterine affections, chronic inflammatory uterine affection, even although unaccompanied with cutaneous disease; persistent rheumatism, ophthalmia, and cases of lupus and palatal ulceration. He agrees with the late Dr. Begbie in thinking that arsenic is of special value in a certain class of rheumatic cases that are of a somewhat intermediate type between rheumatism and gout, or rheumatic gout, in which there is a strong tendency to lithic deposits in the urine. He refers to M. Lolliots' experiments, who concludes, from his observations made on dogs and rabbits, that arsenic exhibits two fundamental properties—first, depression of temperature; secondly, diminution of the urea in the urine. Dr. Cleland is of opinion that the therapeutic effects are due—first, to the arrest of processes of decomposition; and, secondly, to increased nutrition of the epithelial surfaces, evidenced by silvery tongue, plump appearance of the face, and red conjunctiva.

Art. 70.—*On Morphia in the Treatment of Cutaneous Diseases.*

By H. S. Purdon, M.D., Physician Belfast General Hospital and Hospital for Skin Diseases.

(*Journal of Cutaneous Medicine*, March.)

Many forms of skin diseases are benefited, and various distressing symptoms relieved, by the use of morphia. Its advantage over opium is considered to be due to occasioning a less degree of vascular or arterial excitement, seldom causing any headache, vertigo, or constipation. If morphia be taken in an overdose, itching and tingling of the whole cutaneous surface is often experienced, accompanied by more or less cerebral excitement.

The preparations used have been the hydrochlorate, bimeconate, and acetate. The last is best suited for hypodermic injection. None of these preparations are safe for young children; indeed, it is better to substitute the bromide of potassium.

The first disease on the list in which morphia is particularly useful is prurigo, by which term Dr. Purdon implies a neurotic condition of the skin, generally an affection of advanced life, due to altered innervation of the cutaneous covering. In this disease the perspiratory function is usually absent: hence the use of morphia, not only to allay irritation and itching, but also to occasion more or less moisture and exhalation from the skin. It is contra-indicated, however, when the urine is scanty and high-coloured, a condition of things often present in the disease under notice, which is in many instances preceded and accompanied by diminished secretion of urine. In such a case the latter symptoms must first be remedied before we prescribe morphia. Of course the neurotic element in the case must not be lost sight of, and which in most instances may be combated by a full dose of quinine (ten grains) daily, as suggested by Prof. Erasmus Wilson. In females prurigo is generally accompanied by a highly-sensitive and irritable condition of the nervous

system. It is in such cases that morphia acts best, and Dr. Purdon regrets to say that the treatment by morphia is often only palliative, and the best plan to accomplish this end is by the hypodermic injection of morphia, beginning with the eighth of a grain of the acetate, gradually increased. It may be necessary in some cases to inject twice daily. The part selected is not of much importance—the arms do very well. By using the hypodermic method we are able to keep the stomach for food, cod-liver oil, &c.

In dermatalgia, or that neuralgic condition of the skin often hysterical, as well as in the neuralgia of herpes, the hypodermic injection of morphia is of great benefit, being free from one objection to the use of opium—viz., that morphia does not tend to increase the existing congestion of the vessels present in herpes. For the same reason it may be used to procure sleep in urticaria, but given internally; as the hypodermic method has been known to procure the eruption of wheals, whether from the morphia or the irritation and wound caused by the needle in a sensitive and hyperæsthetic skin Dr. Purdon cannot say. Hence, in the latter, it is better to administer the medicine by the mouth.

In eczema morphia is no new remedy. In cancer, to soothe and assuage pain, morphia is daily prescribed by the profession. In lupus, after cauterizing the tubercles with a pointed stick of nitrate of silver pushed freely into them, a dose of morphia gives the patient a good night's rest.

In gutta rosacea, a disease so frequently connected with derangement of the stomach, the patient being often a confirmed dyspeptic, morphia is of much service, and, by allaying gastric irritability, &c., allows us to prescribe suitable remedies.

A morphia suppository is one of the best palliative remedies for that painful affection, pruritus ani, is cleaner and more easily applied than either lotions or ointments.

In small-pox, when accompanied by much irritability, inveterate itching of the skin, loss of sleep, and tendency to convulsions, morphia—either acetate, hydrochlorate, or bimeconate—may be prescribed in a full dose.

Lastly, Dr. Purdon adds, it only remains to say that the pain of a blister, especially if large, and to be applied to a "nervous" person, may be prevented by the hypodermic injection of morphia.

Art. 71.—*On Phosphorus as a Remedy in Skin Diseases.*

By James Broadbent, M.D.

(*The Lancet*, April 22.)

At a meeting of the Clinical Society of London, on April 14th, Dr. Broadbent read a paper "On Phosphorus as a Remedy in Skin Disease," in continuation of a series of cases published in vol. ii. of the Society's Transactions, in which manganese and nickel were given as remedies for anæmia. If the action of remedies and poisons on the human organism

is due to their chemical properties, substances allied chemically ought to have an analogous physiological and therapeutical influence, or the diversity in their action ought to be explicable on chemical grounds. In other words, chemical groups should form therapeutical groups. The investigation suggested by these considerations is as follows :—Given a distinct and well-ascertained physiological or therapeutical effect, can results in any way similar be obtained from the chemical allies of the body producing it? The group of which phosphorus is the head chemically, and of which arsenic is the chief representative in therapeutics, affords an opportunity for the application of this test. Its four members, phosphorus, arsenic, antimony, and bismuth, stand in the order named in regard to equivalent numbers, physical properties, and chemical energy; and their compounds with other elementary bodies form analogous series. Excluding bismuth, which, from its feeble affinities and tendency to form insoluble compounds, may be considered inert, there is in the mode of action of phosphorus, arsenic, and antimony, as poisons, and in the tissue changes they induce, a parallelism as remarkable as that of the chemical properties of these bodies, both in the energy and in the character of the physiological effects. The opportunity for bringing out further therapeutical parallelism is furnished by the well-known curative action of arsenic in certain classes of skin disease, such as some forms of eczema and psoriasis. Cases of this kind were taken, and, instead of arsenic, phosphorus was given. Two grains of this substance were dissolved in oil, and from three to seven drops of the solution were given, usually in mucilage, three times a days after meals. Six cases of eczema were related, in all but one of which the phosphorus was decidedly beneficial. The most striking case was that of a girl aged twelve years, who had had eczema of the scalp, extending down upon the forehead and face, for three months. She took first four, and afterwards five minims of the phosphorated oil for three months without any external application, when it was discontinued on account of sickness, the eruption having almost disappeared. Three weeks later it was resumed, and after a fortnight all that remained was slight redness and scurfiness of the scalp. With the aid of creasote and red oxide of mercury ointment the skin ultimately became healthy. The cases of psoriasis were also six in number, two out of which proved rebellious, not only to phosphorus however, but to arsenic, and all treatment, general and local. In one case, that of a man aged twenty-two, psoriasis had been present more or less from the age of four or five; the patches were large and numerous, and had an inveterate look. He took the solution of phosphorus in doses of from five to eight drops. On two occasions the psoriasis completely disappeared without the use of any local application, and a third time with the aid of creasote and ammonio-chloride of mercury ointment; but his attendance was irregular, and during the twenty-one months that he was more or less under observation he contracted first gonorrhœa and then syphilis (aphrodisia from phosphorus?), and he ceased to attend at the hospital while the evolution of cutaneous syphilis in a "dartrous" subject was being watched. The object of the communication was not to bring forward a new remedy for skin diseases, but to exhibit one more analogy between phosphorus and arsenic. If phosphorus, however, were as manageable and as little disagreeable as

arsenic, it would probably, according to Dr. Broadbent's experience, be found superior in efficacy.

Dr. Althaus remarked that phosphorus was best given in the form of a pill, that from one-fortieth to one fourth of a grain could be taken without difficulty, and that, according to his experience, the medicine may be given with other drugs without any objectionable results.

Art. 72.—*Treatment of Acne Faciei.*

By Prof. Hebra, of Vienna.

(*The Lancet*, March 18.)

Prof. Hebra is now using emplastrum hydrargyri in cases where the patients have business to attend to in the daytime. The plaster is applied to the affected skin at bedtime, and allowed to remain on all night. The next morning, on rising, it is removed, and the face is powdered with a mixture of equal parts of subnitrate of bismuth and Venetian talc. In the evening the plaster is reapplied.

Art. 73.—*Treatment of Eczema of the Hands.*

By Prof. Hebra, of Vienna.

(*The Lancet*, March 18.

Prof. Hebra treats those cases which are due solely to local irritation —*e.g.*, in bakers, from flour—by covering the hands with gloves made of mackintosh cloth, and tied round the wrist with a handkerchief or bandage. The patient only takes them off (by pulling them *at the wrist*, so as to turn them inside out) at meal times, when he is directed to wash his hands and the insides of the gloves with cold water. By this plan the skin is effectually protected from injurious influences, while at the same time it is kept in a sort of bath by the perspiration retained by the impervious glove.

Art. 74.—*Treatment of Chronic Eczema.*

By Prof. Agnew, of the Pennsylvania Hospital.

(*Medical and Surgical Reporter*, No. 725.)

Prof. Agnew delivered a clinical lecture on a severe case of this disease, in which the following treatment was recommended as the proper course to be pursued:—In the first place, all obstructions were to be removed by careful attention to the general health of the patient. The bowels to be kept freely open, the digestion improved, and, in fact, every function and organ placed in proper working condition. As

internal remedies, the syrupus ferri iodidi in the dose of 15 minims, was to be given three times in the twenty-four hours, and the infusion of cascarilla was recommended as an excellent stomachic. Locally, the legs, which were the principal seat of the disease, were to be twice each day thoroughly bathed in bran water, and then washed with juniper-tar soap, to be followed by a liberal application of tar ointment with ʒj of calomel incorporated in each ounce. Prof. Agnew remarked that another excellent remedy, and one with which he had often succeeded, was the hydrarg. chlor. mitis, ʒiss; cretæ preparatæ, ℈j. The powder to be thoroughly rubbed into the unhealthy skin.

Art. 75.—*Treatment of Chronic Urticaria.*

By Edward Long Fox, M.D.

(*Journal of Cutaneous Medicine*, December, 1870.

Dr. Edward Long Fox refers to the difficulty of tracing the causes of chronic urticaria, and suggests the disease may be sometimes due to the effect on the vascular system of subacute uterine or ovarian irritations of various kinds. Both in its acute and chronic form it seems to be a morbid condition depending on reflex sensation. It is probable, he thinks, that in seeking to remove the exciting cause of chronic urticaria, we are too often satisfied with confining our attention to the alimentary canal. We may have to treat, in the chronic form of the disease, a severe neurosis, or at least, to recognise in it a manifestation of a nervous diathesis. The difficulty of treatment consists in our ignorance of the cause of the disease, but there is a good deal that may be done in these cases, in which, with sensitive nervous centres, the exciting cause is connected with the pelvic viscera. In such cases, arsenic has in his hands proved very useless, but considerable benefit has accrued under the bromides, and especially under a combination of the bromides with iron. But with all cases of chronic urticaria in which an uterine or ovarian exciting cause may be reasonably suspected, he is in the habit of using tepid alkaline baths of some duration, baths to which common salt, bicarbonate of soda, or carbonate of potash, have been added.

Art. 76.—*The Treatment of Psoriasis.*

By Tilbury Fox, M.D., M.R.C.P.

(*The Practitioner*, March, 1871.)

Dr. Fox's general treatment for psoriasis in the young is the use of cod-liver oil and steel, alkaline and bran baths, with a free inunction of oil into the skin.

In cases of ordinary psoriasis in the adult of an acute character, and in which the disease is characterized by a certain amount of congestion, alkaline and bran baths, with inunction of oil in the first instance, pre-

pare the way for a more effective plan of remediation. So long as fresh spots are appearing, as a rule Dr. Fox withholds tarry preparations; if there be any pyrexia, or the skin be irritable and congested, he uses the simple diuretics freely. Attention must of course be specially directed to the mode of life, mal-assimilation, nervous debility, &c. But, supposing that the body is partially affected, and the scaliness is the most marked feature, and the patches of disease are not particularly thickened, the patient being in tolerable health, it is in such examples that water-dressing and wet packing are of so much value. As the disease becomes more chronic, strong tarry preparations may be used, the object of these being to check the cell proliferation without over-stimulating the skin. When the disease becomes still more chronic and indolent, and where the patches are much thickened, it is then that the so-called soap treatment, and the use of absorbents and revulsives are called for, and are found to be very efficacions. The soap treatment consists in rubbing soft soap, from two to six ounces, according to the extent of the disease, and the sensitiveness of the patient, into the diseased patches very firmly, with a piece of rag, night and morning, until the epidermis is rubbed off, and the congested derma bleeds; successive rubbings being adopted towards different regions day by day, the patient being kept in a blanket all the while. Dr. Fox believes that the plans of macerating in wet packing, and the soap treatment, do well in a certain number of inveterate and indolent cases in Englishmen, but the skin of an Englishman being more apt to take on inflammatory action, requires soothing remedies. Dr. Fox protests against the prevalent opinion and belief that exactly what will suit a German or a Frenchman will suit an Englishman. He prefers in the chronic psoriasis of the adult, water dressing, baths of sulphuret of potassium, and weak mercurial ointments, as far as local measures are concerned. In the very chronic cases of disease, when we find the general health good, the persistent use of arsenic in the solid form is the best treatment, and phosphorus seems oftentimes to act effectively in connexion with tonics or arsenic in those whose nervous system gives evidence of too much wear and tear. When the disease is of twenty or thirty years' duration, Dr. Fox believes that packing in oil is the best treatment, with the free use of liquor potassæ internally with quinine. In those cases in which any tendency to eczema shows itself plainly, in which the psoriatic patches are thinnish, pale, generally scattered over the body, itching, and accompanied by much discoloration of the skin, such waters as those of Harrogate are very good, in conjunction with sulphur baths.

Art. 77.—*Treatment of Psoriasis.*

By Henry S. Purdon, M.D., L.R.C.P.

(*Journal of Cutaneous Medicine*, March.)

Dr. Purdon, during the past six months, has been trying various remedies, both constitutional and local, in the treatment of psoriasis. Amongst the former, the various preparations of arsenic, cod-liver oil,

hypophosphite of soda, balsam of copaiba, carbolic acid, quinine, &c., have in suitable cases been prescribed. In the latter, tar, black soap, carbolic acid, cold-water dressing, oil of cade, balsam of Peru, citrine ointment, &c., were used. The results arrived at may be briefly stated as follows:—Arsenic, especially the liquor sodæ arseniatis, combined with cod-liver oil and plenty of animal food, as recommended by Dr. Passant—with, if possible, an exclusive animal diet—are the most satisfactory remedies, and those which "cure" quickest. Relapses, no matter what drug is used, are common. Amongst the local remedies, Hebra's tincture of tar and black soap is the best: if it be objected to by the patient, a carbolic acid lotion may be substituted, presuming that no acute inflammatory symptoms are present. Copaiba is also very useful, especially if it produces urticaria.

Art. 78.—*Experimental Researches on the External Treatment of the Variolous Pustule.*

By Dr. Maragliano.

(*L'Imparziale*, February 16; *Liguria Medica*; and *The Practitioner*, April.)

Dr. Maragliano remarks that the external treatment of the pustules in small-pox has always attracted the attention of the physicians. The inconvenience and pain proceeding from the tense tissues, the tenacity with which the crusts remain adherent to the skin of the face even when convalescence is established, and the ultimate loss of substance, have led many to adopt a variety of measures with the view of preventing disfigurement. Lussana, Quarin-Villemier, Ruba, and above all, Bamberger, have recommended the use of collodion as an excellent means of diminishing the pain and tumefaction, and of preventing the formation of cicatrices. Hebra and Cantani, however, have found it of little avail. M. Maragliano, from his own researches, believes it diminishes the swelling, but at the same time its contraction occasions considerable pain, and from trials of it over certain portions of the face he found the cicatrices were larger and deeper where it had been applied than elsewhere; and this he thinks can be readily explained, as the pus when formed, instead of being discharged, as naturally occurs, meets with fresh resistance in the layer of collodion, and the size of the little abscesses consequently increases. Instead of this remedy he recommends the employment of glycerine, which he has found of essential service. Its use, which was recommended by Gubler and Lailler in acute dermatoses, was introduced into the Ospedale Civico by Dr. Bellagamba, and was first applied to the relief of variola by Dr. Maragliano, who has now had experience of it in 800 cases. He applies it freely over the surface of the skin with a brush as soon as the eruption makes its appearance, and repeats its application twice a day, till the crusts have fallen off. It relieves the tension, permits the eyelids to move more freely, aids the crusts in separating, and hence leads to less pitting. When the pain is considerable a few drops of laudanum may be added to the glycerine with great advantage.

Art. 79.—*Case of Primary Sore on the Lip of a Child.*

By Tilbury Fox, M.D., M.R.C.P.

(*The Lancet*, April 22.)

Dr. Fox regards the following case as a conclusive illustration of the fact that the secretion of a secondary syphilitic sore may give rise, by inoculation, to an indurated chancre possessing all the characters and qualities of a primary hard sore.

Annie Ç——, aged five years, came to the University College Hospital on January 14th, with her mother, who was under treatment for secondary syphilis. The mother called attention to a sore on the lip of her little girl. At the left side of the lower lip was a circular sore, about the size of a threepenny piece, having all the characters of a primary indurated chancre; the glands on the left side of the jaw were hard, enlarged, and somewhat painful; the child was feverish and very languid. Subsequently some of the glands along the sterno-mastoid became enlarged. The child was placed at once under the influence of grey powder and of iodide of potassium, but the disease continued without much change for a month, when the induration about the sore had much subsided and the gland had lessened in size, but the child was exceedingly anæmic and had lost flesh; her throat was very sore, and she was still feverish. On March 10th, the sore on the lip had practically healed; the child had improved in every way under the continued use of the grey powder once a day for the last fortnight, with chlorate of potash, quinine, and reduced iron twice a day. The girl had subsequently a few pustules about the scalp here and there, and one well-marked tubercle at the bend of the elbow on the left side, but is now convalescent again.

The patient's history left no doubt in Dr. Fox's mind that the disease was communicated to the child from a secondary sore on the lip of the mother, with whom the child had always been in the habit of sleeping.

Art. 80.—*On Xanthelasma Palpebrarum, and its Significance as a Symptom.**

By Jonathan Hutchinson, F.R.C.S., Senior Surgeon to the London Hospital, Surgeon to Moorfields and to the Hospital for Skin Diseases.

(*The Lancet*, March 25.)

The author stated that his paper concerned the buff or yellow patches, not very unfrequently seen near the inner angles of the eyelids, which had been described by Dr. Addison under the name Vitiligoidea plana, and which had been accurately figured by Mr. Wilson, Hebra, and several other authorities. He preferred Mr. Wilson's name because

* Read at a Meeting of the Royal Medical and Chirurgical Society, March 14.

it had reference simply to the very conspicuous colour of the patches, and to their location; and because it involved no suggestion of similarity or relationship to any other malady. For some years the author had been engaged in collecting facts as to the clinical meaning of these curious patches, in the hope of finding that their presence might furnish a clue to their possessor's diathesis or state of health. More especially he had wished to investigate the correctness of Dr. Addison's belief (founded on but very few cases) that they were usually associated with disease of the liver. The paper was based upon the narrative of about thirty cases, and was illustrated by a series of coloured drawings. The chief conclusions arrived at are summed up in the following propositions :—

1. That xanthelasma never occurs in children; whilst it is fairly common in middle and senile periods of life.

2. That, in a large majority of cases, its subject is not seriously ill, nor in any danger of becoming so.

3. That, in a small proportion of very severe cases, jaundice, with great enlargement of the liver, are met with.

4. That, when jaundice occurs, it almost always precedes the xanthelasmic patches.

5. That the form of jaundice is peculiar, the skin becoming of an olive-brown, or almost black tint, rather than yellow, and the colour being remarkable for its long persistence.

6. That the enlargement of the liver may be very great, and that it may subside, and the patient regain good health.

7. That in many cases in which there has been no jaundice, there is yet the history of frequent and severe attacks of functional disturbance of the liver.

8. That the xanthelasma occurs more frequently in females than in males, the proportion being two to one.

9. That in all cases the xanthelasmic patches appear in the eyelids first; and that not in more than about 8 per cent. do they ever extend to other parts.

10. That the patches invariably begin near the *inner* canthus, and almost invariably on the *left* side.

11. That xanthelasmic patches are of little value for purposes of prognosis, being usually the evidences of past rather than of coming disease.

12. That it seems not improbable that they may result from any cause which has induced repeated changes in the nutrition, and especially in the pigmentation of the skin of the eyelids. Thus they occur to those who have been liable to have dark areolæ round the eyes, whether from "sick headaches," ovarian disturbance, nervous fatigue, pregnancy, or from any other cause. Hence their frequency in "bilious subjects," and in the female sex.

13. That it is probable that of the causes mentioned under which the pigmentation of the eyelids may be disturbed, disorder of the liver is the most powerful; hence the fact that the more extensive cases are usually associated with hepatic disease.

The author stated, amongst other points, that when these patches are seen on the eyelids, it is usually safe to suggest that their possessor

has been the subject, at some period of life, of very severe and frequent sick headaches, and that in two-thirds of the cases this suggestion would be confirmed. He added that he had met with some cases in which some of the less usual evidences of disturbance of the nervous system in connexion with sick headaches had also been observed. In one instance, a man had been liable during his headaches to become temporarily quite blind of one eye, and now and then of both; and another, a woman, was liable to sudden loss of muscular power in her arms. Two cases were related of great enlargement of the liver, with "black jaundice," both of which disappeared after a while. In one of these the patient became insane during the jaundice, but recovered afterwards, and is now well, but with large patches of xanthelasma.

As regards the pathological anatomy of the patches, the author preferred to reserve his facts, which were as yet incomplete. He showed drawings, however, to illustrate the important fact, not previously noticed, that the patches sometimes show evidence of other changes in the skin besides the accumulation of yellow material. Thus it is not uncommon for sebaceous glands to become much enlarged, and plugged by pellets of indurated secretion, blackened at the free extremity; and in one instance a number of large thin-walled serous cysts were developed. In these rarer forms of the malady, its real nature is usually disclosed by the presence of some small spots of the characteristic buff tint. It is also recognisable from the fact that, whether the disease be cystic or sebaceous, the morbid conditions are arranged above and below the inner canthus, in what may, for convenience, be styled the *xanthelasmic positions*. Like xanthelasma in its more typical forms, they are also after a time accurately symmetrical.

Art. 81.—*On the Lichen Circumscriptus of Willan.*

By Professor Erasmus Wilson, F.R.S.

(*Medical Press and Circular*, March 15.)

At a meeting of the Medical Society of London, on February 27th, Prof. Wilson read a paper on "The Lichen Circumscriptus of Willan." Diagrams were handed round, showing the concentric rings and segments of rings which this disease formed. The disease was an inflammatory affection of the follicles, "a folliculitis," a cluster of follicular papillæ formed the ring, a line or two broad; it had a tendency to spread in a serpiginous way. There was usually severe itching, and in some cases a gummy exudation. The details of two cases were very exactly given by Mr. Wilson. One was that of a man, who had the disease chiefly about the perineum, and who seemed to have got well on a course of mercurial inunction and tonics. The other was a most inveterate case, and occurred in a lady, affecting the whole body; temporary improvement only was obtained. The disease is known as the "Dartre of Hindostan, or Indian ringworm;" it prevailed also in China, and Mr. Wilson had put into his hands by Mr. Gay, as a communication from Mr. Thomas Powell, Medical Missionary in the South Pacific Islands, an account of the disease, as it was met with in the island of

Samoa, having been imported thither by two men who arrived in a boat from one of the neighbouring islands. Mr. Powell had called it "Herpes Desquamans." Lately, Mr. Powell had discovered an insect of the order muscidæ in all stages of development, on the skin of persons attacked. The application of the tincture of iodine had been useful in two or three cases. Mr. Wilson then went on to say that he considered the disease to lie between eczema and lichen. Hebra and Willan regarded it as an eczema, but as follicular inflammation is the pathognomonic character of the disease, it seemed to Mr. Wilson more allied to lichen, and hence he called it "Lichen Marginatus." In speaking of treatment, Mr. Wilson alluded to the experience of Mr. Nicholson, with whom he agreed as to the value of firm inunction of mercurial ointments and solutions, while tonics and the ferro-arsenical mixture were given internally.

Art. 82.—*Transmission of Ringworm from Horse to Man.*

By Tilbury Fox, M.D., M.R.C.P.

(*The Lancet*, March 25.)

At a meeting of the Clinical Society of London, on March 10th, Dr. Tilbury Fox brought before the notice of the Fellows seven cases of ringworm of the arms and hands, of an extensive and severe form, in seven men, in whom the disease had been contracted from a white pony, whose body was studded over with patches of tinea tonsurans, having analogous characters to those seen in ordinary ringworm of the scalp. The disease occurred only in those men who had groomed the pony; in three men brought to Dr. Fox by Dr. Drage, of Hatfield, and who were the ordinary grooms of the owner of the pony; and in four others, attendants of the Royal Veterinary College, where the pony had been sent for treatment. . The patches of ringworm were chiefly in the front of the arms; they were large, more infiltrated than usual, and, in one case, markedly herpetic. In one of the other cases the central portions of the circular patches were studded with minute pustules. Dr. Fox attributed the severity of the disease to the large amount of fungus of a very luxuriant kind being sown at one time upon the arms of the men. In one man parasitic sycosis was produced. Hairs taken from the pony, exhibited under the microscope, were seen to be ensheathed in spores and mycelial threads, both of which invaded the shaft of the hair; and scales taken from a patch on the arm of one of the men were also placed under the microscope, and showed the mycelium of the fungus, which Dr. Fox pronounced to be the trichophyton, sprouting in all directions throughout the epithelial scales. Dr. Fox stated that he had never seen the transmission of ringworm from the horse to man before, nor had Prof. Spooner in his forty years' experience; but he referred to the history of an epidemic which occurred some years ago amongst horses and mules in the valley of the Borne in Savoy, and which was reported upon by Prof. Papa, in which a disease similar to that in the present seven cases was observed to be communicated to man from the horse. Bazin had also noticed the same occurrence. He remarked, however, that the transmission of tinea from the ox and calf

to man was common enough. He concluded by remarking that the seven cases brought under the notice of the Society illustrated the fact that ringworm of the surface varies considerably in aspect, according to the amount and rapidity of growth of the fungus, from a mere erythematous desquamating patch (so-called parasitic pityriasis) to a pustulating surface resembling and liable to be mistaken for an eczema; the two extremes being connected by transitional forms, represented by an abortive herpes, a well-marked herpetic patch, or a desquamating circular area bounded by an herpetic edge; the occurrence of so much effusion as is necessary to produce herpetic vesicles being dependent upon the amount of irritation set up. Veterinarians who asserted that "ringworm" was common in the horse, and might be communicated to man, had not brought forward any proof that the disease which they styled "ringworm" was really parasitic, and he had no doubt many non-parasitic eruptions of animals were classed under that term. The disease in the white pony referred to was, as proved microscopically, undoubted tinea tonsurans.

Art. 83.—*Case of Pityriasis Pilaris.*

By Tilbury Fox, M.D.

(*The Lancet*, January 7.)

At a meeting of the Pathological Society of London, on December 20th, 1870, an interesting case of Pityriasis Pilaris, as described by Devergie, was brought before the notice of the members by Dr. Tilbury Fox. The patient, a man aged forty-nine, was attacked in June last with pityriasis rubra of the whole surface, the integuments being deeply congested, and subsequently throwing off branny scales, and then lamellar flakes, but without there being any discharge whatever. After a while the skin showed a disposition to return to its natural appearance in certain parts, especially about the belly, the back, the shoulders, and upper arms, and here all that now remains is plugging of the hair-follicles by little masses of epithelial cells, so as to give rise to the appearance of the skin being studded all over with little pale-red or white elevations, the size of pin-heads, whilst the integuments have the feel of a rasp on passing the hand over them. In the other parts of the body the appearances were those of pityriasis rubra. Dr. Tilbury Fox explained the difference between this condition of things and lichen ruber and psoriasis, and stated that the case bore out the truth of the description given by Devergie.

Art. 84.—*Topical Treatment of Lupus Serpiginosus.*

By Dr. Weisse, Professor of Dermatology in University Medical College, New York.

(*American Journal of Dermatology, and Journal of Cutaneous Medicine*, March.)

In an interesting paper on the above subject, Dr. Weisse extols the acetate of zinc, originally recommended by Neligan of Dublin. The

method he employs is as follows:—The ulcerations are carefully freed from scabs, their surfaces washed and dried; then a crystal of the acetate of zinc is thoroughly applied. A solution of the salt (gr. viii. to ʒj.) is kept constantly applied on lint, with a piece of oiled silk covering it. If the patient goes about much, an ointment containing the salt (gr. x. to ʒj.) may be substituted for the lotion. The application of the crystals should be repeated once a week. The pain produced is very intense; it may, however, be relieved by cold water. Several cases are recorded in which this method of treatment was adopted.

Art. 85.—*Treatment of Pruritus Vulvæ.*

By W. M. MacGrath, F.R.C.S.I.

(*The Lancet*, April 8.)

Mr. MacGrath states that he has found the application of the undermentioned lotion (by means of a soft sponge after ablution, morning and evening) attended with the most satisfactory and speedy results:—Biborate of soda, two drachms; hydrochlorate of morphia, one scruple; hydrocyanic acid, one drachm; glycerine, one ounce; distilled rose-water, to eight ounces.

Art. 86.—*The Effects of Ether Spray on the Skin in Addison's Disease.*

By Frederick Churchill, M.B., F.R.C.S.

(*Medical Times and Gazette*, April 22.)

At a meeting of the Pathological Society, on April 4th, Mr. Frederick Churchill brought forward a specimen showing the effects of Ether Spray on the skin in Addison's Disease. He had tried the experiment to ascertain if it was due to partial stasis of blood in the venous capillaries. The bronzed appearance disappeared while the skin was frozen, but returned when the circulation was restored. The same result was not obtained in the case of a negro. Two months afterwards, the frozen portion of the skin had desquamated, including the epidermis with its pigmentary layer, exposing a patch of blanched skin, which appeared to retain the usual elements, except the pigmentary layer.—Dr. Greenhow asked if a cicatrix had formed, and observed that if so, the result would be explained, because the epidermis would be destroyed; if it were not destroyed, irritation had been observed to deepen the colour.—Mr. Churchill replied that there was no cicatrix, and that the pigmented part faded into the blanched tissues.—Dr. Murchison suggested that the cold might have paralysed the nerves of the part, and prevented the deposit of fresh pigment.—Mr. Croft observed that the effect of cold was to paralyse the superficial nerves of the epidermis, and render the colour lighter.—Mr. Churchill, in answer to the President, replied that he could not say whether the temperature had been maintained.

SECT. III.—FORENSIC MEDICINE.

ART. 87.—*The Phenomena of Death by Drowning and Cold.*

By BENJAMIN W. RICHARDSON, M.D., F.R.S.

(*The Lancet*, January 7.)

The Phenomena of Death by Drowning and Cold formed the subject of Dr. Richardson's experimental and practical lecture on Tuesday, January 3rd. He showed, amongst other experiments, that fish which would be presumed to be dead from what he called "glacial death" were easily recoverable. His view as to the suddenness of the collapse of the body in water at freezing-point is, that the exhaustion follows on peripheral nervous shock, due to the cold, and quick succeeding exhaustion of the nervous centres. Thus the temperature of the brain was redueed to 56° F., in an animal drowned in freezing water, while the temperature of the chest and abdomen was at 79° F. Death from drowning under ice is, Dr. Richardson states, one of the most rapid of deaths, and is completed, he believes, with so quick an extinction of consciousness as to be actually painless. The heart retains its power of action, the blood remains fluid, and the muscles keep up their irritability for a long time after apparent dissolution; and so favourable are all the conditions for renewal of living action, even for two hours, that a considerable advance in the practice of resuscitation must follow upon further careful and laborious experimental research.

ART. 88.—*Dangerous and Fatal Results from the Use of Hydrate of Chloral.*

By H. W. FULLER, M.D., F.R.C.P., Senior Physician to St. George's Hospital, &c.

(*The Lancet*, March 25.)

Dr. Fuller relates the case of a patient who was admitted into St. George's Hospital, under his care, suffering from slight anasarca and bronchitis connected with chronic Bright's disease. He was restless and nervous and unable to sleep, and therefore, after he had been some days in the hospital, and was exhausted for want of sleep, Dr. Fuller ordered the chloral draught of the hospital (containing thirty grains of chloral) to be taken at bedtime. Soon after he had taken it he jumped up in bed, clutched at his heart, and complained that the medicine produced a sense of burning. In the course of a few minutes he became violently delirious, and though after a time the delirium subsided, so much depression ensued that Dr. Jones, the resident officer, had great difficulty in sustaining his heart's action. Gradually, however, the heart recovered itself, the pulse returned at the wrist, and in a few hours he was out of danger.

Having read M. Liebreich's assertion that hydrate of chloral, when in

contact with an alkali, is transformed into chloroform and formic acid, it occurred to Dr. Fuller that the extraordinary results witnessed in his patient's case might be attributable to an alkaline condition of the stomach, whereby the chloral was at once converted into chloroform, and thus induced the symptoms which were observed. He therefore determined to try it once again, taking care on this occasion to guard against such an occurrence by administering the chloral in combination with a full dose of acid. The result, however, was precisely the same as on the first occasion. Again there was the same sense of burning and oppression at the chest, followed first by violent excitement and delirium, and subsequently by collapse with failure of the heart's action; and on this occasion, as on the last, Dr. Jones was long doubtful whether the man would recover.

In the second case related by Dr. Fuller, thirty grains of the hydrate of chloral proved fatal. The patient, a young lady aged twenty, who was previously in fair health, complained on December 29th of constipation and other symptoms of stomach derangement, for which her medical attendant administered a pill at night, followed by an aperient draught in the morning. On the 30th the bowels acted, and she was relieved; but she passed a restless night, and on the 31st complained of uneasiness in the lower part of the abdomen, which was attributed to the approaching menstrual nisus. As she was very hysterical, a neighbouring practitioner was sent for early, and when he met the family medical attendant in the afternoon, they determined, as she was nervous and restless, and had obtained little or no sleep on the previous night, to give her thirty grains of chloral. She took the dose about ten p.m. on the 31st, and almost immediately became much excited, and complained of pain in the chest. In about an hour the excitement passed off, and she fell asleep and slept heavily all night. In the morning she was sleeping so heavily, and looked so pale, that the family became alarmed, and sent for the gentleman who had seen her the previous day. When he arrived she was very pale and breathing heavily—a sort of deep sighing respiration; there was no pulse at the wrist, and her extremities were rather cold. It was impossible to rouse her in the slightest degree. He gave her stimulants, and applied warmth to the extremities, and gradually the pulse returned at the wrist, though at the best it was only just perceptible. The family medical attendant subsequently met him in consultation, and together they did all that appeared to be expedient; but as everything failed to rouse her, or in any way to alter her condition, they asked Dr. Fuller to meet them in consultation at two p.m.

When he saw the patient she was lying on her back, with her eyes closed, and breathing heavily, the respiration having a distinctly sighing character. She was very pale, and somewhat cold; the skin was dry; the pupils were large and dilated, but acted sluggishly under the influence of a strong light; the pulse was scarcely perceptible, but the heart was beating regularly, about 120 in a minute, and though its action was very feeble, its sounds were clear, and its rhythm was normal. There was no distension of the abdomen; indeed, it was flat and soft; there was no contraction or rigidity or undue flaccidity of the limbs. It was impossible to rouse her in the slightest degree; but when fluid was put

into her mouth she swallowed without much difficulty, so that she took a full-sized wineglassful of brandy-and-water in the course of ten minutes.

The indications for treatment being obviously to sustain the heart's action until the effect of the chloral had passed off, we determined to give her brandy and diffusible stimulants as far as possible by the mouth, and to supplement our efforts in that direction by repeated injections up the bowel of strong beef-tea and brandy. However, everything proved unavailing. She continued in much the same condition until about nine o'clock the following morning, when she sank, without having exhibited the slightest consciousness or moved a muscle from the time she fell asleep on the evening of December 31st.

Art. 89.—*On Acute Yellow Atrophy of the Liver, and its Connexion with Phosphorus-poisoning.*

By Dr. Opikovsky.

(*Allgemeine Wiener Medizinische Zeitung*, No. 49, 1870.)

1. Cases of chronic poisoning by phosphorus have been observed, the clinical, pathological and chemical conditions of which exactly corresponded to those of acute yellow atrophy of the liver.

2. Although one is not yet disposed to regard in every case acute yellow atrophy of the liver as a result of chronic phosphorus poisoning, and to exclude every other cause, yet it must be allowed that this affection, in many instances, is due to phosphorus poisoning. Hence it appears that the disease known by the name of acute yellow atrophy of the liver is an important subject from forensic and hygienic, as well as from clinical, pathological and chemical points of view.

Art. 90.—*A Case of Poisoning by Coal-gas.*

Under the care of Mr. Jessop, at the Leeds General Infirmary.

(*The Lancet*, December 10, 1870.)

The following case, forwarded to us by Mr. M'Gill, the resident medical officer, is a detailed account of effects which followed the inhalation of common coal-gas. We are not aware of any similar case having been placed on record.

At 7 A.M., on Aug. 26th, Daniel L——, aged twenty-four, went into a large gas-pipe, four feet in diameter, to look after a leak. He thought that all the gas had been let off. On entering the pipe he perceived a strong smell of gas, but after that remembered nothing more till he found himself in the infirmary. It had been ascertained, however, that at the end of twenty minutes he was discovered senseless in the pipe, and that a rope was passed round his legs, by which he was drawn into the open air. For half an hour he did not move, and remained to all

appearance dead; he then gradually revived, and soon afterwards became so violent that he was brought to the infirmary, where he arrived at 8.45.

On admission, he was found to be a strong muscular man, struggling so violently that it took three or four men to hold him. He was quite unconscious of anything that took place, and did not know any of his friends. His struggling was altogether involuntary, and consisted in convulsive attacks, which followed one another so quickly as to be almost continuous. These attacks were of different degrees of severity. A severe one consisted of the following stages :—1st. A loud cry. 2nd. Contraction of the muscles opening the jaws, so that the mouth was opened and the corners drawn down. 3rd. Contraction of the sterno-mastoids and muscle at the anterior part of the neck, bending the head forwards. 4th. Contraction of the muscles at the anterior part of the body, raising him in bed into a sitting posture. 5th. The spasm raised him on to his feet, making him stand straight up in the middle of the bed, rolling slightly from side to side, and throwing his arms about. 6th. He fell from this position in a heap on to the bed. This sequence occurred more than once, and would no doubt have happened oftener had he not been held down. His pulse was small and almost imperceptible —116; the temperature 99°. His skin was bathed with perspiration; the pupils were normal. There was no foaming at the mouth, vomiting, or stertorous breathing.—9.45 A.M.: Has been quieter for the last three quarters of an hour, being apparently relieved by a large mustard-poultice which had been applied all over his chest.—10.15 A.M.: Has been more violent than ever since 10 o'clock. To have chloroform inhalation.—11.15 A.M.: After the chloroform, of which he required a very small quantity, he was quite quiet for half an hour; since which time he has been rather restless, and is now getting violent. To have the chloroform repeated.—2 P.M.: The chloroform acted as before, sending him to sleep for half an hour; he then became restless for about ten minutes, and dropped off to sleep again, and has slept till the present time. Is just awake, knows his friends, and can answer questions in a doubtful, hesitating manner.—4 P.M.: Is sitting up in bed, taking his tea with good appetite.

Aug. 28th.—Left the infirmary in his usual state of health.

ART. 91.—*Veratrum Viride an Antidote to Opium.*

By E. H. SHOLL, M.D.

(*Philadelphia Medical and Surgical Reporter.*)

Dr. Sholl, of Alabama, communicates a case of poisoning by morphia, which was cured by veratrum. The patient, a negro boy, aged fifteen years, had typhoid fever, and took an overdose of morphia, which had been prescribed for hiccup. It was followed by stertorous breathing, contracted pupils, and so forth. His mouth was prized open, and gtt. xviij. Norwood's tincture poured in with two ounces of brandy. In one hour every symptom of poisoning had vanished.

ART. 92.—*A Case in which Sudden Death occurred during Amputation of the Neck of the Womb without the Administration of Chloroform.*

By Dr. GÜNTHER.

(*Berliner klinische Wochenschrift*, Bd. vii. Heft 28, 1870 ; *Schmidt's Jahrbücher*, No. 9, 1870.)

The following case was taken from the clinique of Prof. Spiegelberg, of Breslau :—

A woman, forty-three years of age, extremely anæmic, and who for some years had been under medical treatment, presented a variety of neuralgic and hysterical disturbances; she complained particularly of pains in the small of the back and in the iliac regions. Eleven years previously had given birth to her eighth child. She had always passed through normal lyings-in, and had never suffered from blennorrhagia.

Examination revealed hypertrophy of the uterus from hyperplasia, increase in length and breadth, the latter especially, of the vaginal portion, which presented a thick anæmic tissue, with much erosion and papillar hypertrophy.

This condition was treated by making six linear and radiating incisions into the vaginal portion of the uterus, the patient having been placed upon her elbows and knees. The incisions were carried from the outer surface of the vaginal portion, were each about one and a half line in depth, and extended over the lips of the os uteri into the os itself. Three shallow longitudinal incisions were then made in the mucous membrane of the cervical canal. The operation had not the desired result, as there was but very slight reduction of the cervix. The patient felt but little relieved. It was then decided to amputate the vaginal portion of the womb by means of the galvano-caustic loop. Towards the end of the operation, which lasted for about half an hour, the patient being on her elbows and knees, some venous bleeding occurred on the left side of the eschar; this was soon arrested. On standing up, the patient lost about two table-spoonfuls of blood and fell into a slight fainting fit. In order to prevent further bleeding, a plug of wadding, moistened with perchloride of iron, was placed on the surface of the eschar. During this proceeding the syncope increased in intensity, the most active attempts to restore animation failed, and the woman died.

Results of Post-mortem Examination.—A high degree of general anæmia, with the exception of the extremely vascular and flabby kidneys. Right lung very œdematous throughout, especially its upper lobe. Spleen enlarged, strewn with numerous lymphatic follicles; granulations here and there in liver and kidneys. The veins, with the exception of the renal vessels, were more or less empty of blood. Some were filled with air-vesicles, especially those of the sylvian fissure.

With regard to the explanation of the sudden death in this case, Dr. Günther, in the first place, ascribes prominence to the fact that the anæmic condition made out on post-mortem examination was of a higher degree than that observed during the life of the patient. Hence is the hæmorrhage which came on after the operation, slight as it was, not to

be regarded too lightly. The position, also, of the patient on her knees and elbows, maintained during the operation, might have had some influence on the circulation, and the hasty change from this position to the upright posture might have produced sudden anæmia of the brain and coronary arteries, and consecutive syncope. The extremely congested state of kidneys, with a condition of otherwise general anæmia, justifies, according to Dr. Günther, the supposition that there was a reflex paralysis of the splanchnic nerve, proceeding from the sensory nerves of the parts involved in the operation. The cessation of the heart's action is explained in the same way. That death occurred from syncope is rendered evident by the fact that respiration could be carried on under mechanical and electrical irritation, whilst the pulse and heart-beats could no longer be made out. The air-vesicles found in some veins were supposed by Dr. Günther to be post-mortem phenomena; if, however, air had actually entered into any of the veins opened during the operation, it is difficult to imagine how this occurrence could have had such rapid and severe results, seeing that the veins in question were placed at a considerable distance from the heart and were embedded in tissue so lax and yielding that the collapse of the venous walls would have hindered any entrance of air.

The sudden death in this case, where the operation was performed without chloroform, affords an additional proof of the dictum that one must be careful in judging of cases of sudden death during operations under chloroform narcosis. Sir James Simpson reported a number of cases in which death occurred as from syncope during operations in which no chloroform had been administered, and where nothing could be discovered to account for death. The cases alluded to were these:— hydrocele, aneurism of the femoral artery, false aneurism (hæmostatic injection), three incarcerated herniæ, excision of a wound caused by a bite, abscess in the thumb, abscess in the neck, fracture of the radius immediately after reduction and fixing of the fragments.

Art. 93.—*On the Treatment of Snake-bite.*

By J. Fayrer, M.D., C.S.I.

(*Indian Annals of Medical Science*, No. xxvii.)

As the chief hope of safety lies in preventing the entry of any poison at all into the circulation, the earlier appropriate measures are resorted to, the better is there chance of a success. These Dr. Fayrer describes,

1. The Ligature. This, if applied immediately, at a little distance above the bitten part, may not only arrest the entry of the poison into the circulation, but may also prevent its diffusion in the areolar tissue into a centric direction. The efficacy of this method of treatment has long been recognised by the natives of India, who apply it, not just above the bite only, but at several places on the limb at intervals of some inches. There is reason to believe that if this be done without delay, the course of the poison may sometimes be stayed and life saved. The danger and difficulty lie in not applying the ligature quickly enough.

The confusion and alarm caused by the bite, the brief time that must elapse before the simplest ligature can be improvised, are liable to cause dangerous delay; and with every second of time lost the danger increases. There is also the probability that the ligature may not be sufficiently tightened; no mercy, therefore, can be shown; it must be tightened to the utmost, or it will not effect its purpose, and the poison will enter and do its fatal work. A piece of the dress twisted, a bit of string, a strap, anything that can be made to enclose the limb or part, should be immediately applied, and should be strained to the uttermost by twisting with a piece of stick; nor should the tension cease until the circulation is entirely arrested, and the part is livid with the retained blood. No time should be lost in scarifying the punctures, so as to allow the blood to flow freely; and then in applying fire, a live-coal, a red-hot iron, some caustic mineral, or carbolic acid, to the wound, so as to destroy the poison which is contained in the strangulated part, the disorganization must be very complete, or even then it will fail, as enough of the poison may remain to be subsequently absorbed when the ligature is removed, and, after all, destroy life. In the case of a finger or toe, Dr. Fayrer believes that immediate amputation would be justifiable, if the sufferer or his companions—an instrument being at hand—had the moral courage to lop off the part at once. Should the bite be inflicted on a part of the body where a ligature could not be applied, the only expedient remaining is to excise the part to the depth of the punctures, let it bleed freely, and then apply fire or caustic. Suction either by the mouth or cupping-glasses is useful—for the latter purpose any small vessel might suffice; a little spirit or a piece of burnt paper alone would serve to exhaust the air; that by the mouth is efficacious, but it must be borne in mind that there is danger in applying the poison to the lips, for it may be absorbed, and evil results follow to the operator. But suction, however practised, should be applied after the ligature in those cases where that application is practicable, where it is not after excision, and before the application of caustic or cautery. As there is great and rapidly increasing depression, both from mental as well as physical causes, stimulants should be given at once freely and frequently. At the same time, warmth and sinapisms to the precordial and epigastric regions; in some cases, cold douches, and all measures that may tend to rouse and stimulate the failing nervous energy should be resorted to. In speaking of the so-called antidotes, Dr. Fayrer has no hesitation in saying that he believes them to be useless, and that excepting for their stimulant action, when they have any, they are inert. When the symptoms of poisoning have set in, either when the ligature and excision, or caustic, or cautery have failed, or when they have not been used, Dr. Fayrer believes that the only rational treatment is to endeavour to rouse the sinking energies, and arrest the tendency to fatal paralysis of the nerve force, by the aid of alcohol or other stimulants, such as ammonia or ether, judiciously administered, avoiding anything that can depress, such as fatigue or over-exertion, especially that of the popular method of making the sufferer walk when his force is almost expended. Brandy or whisky—indeed, any form of alcohol, should be given freely and frequently, though not in the large quantities sometimes recommended. Galvanism may also be of service along the spine, to the

solar plexus or to the heart; in certain cases cold douches may be useful. Hot bottles and sinapisms may be applied, and every encouragement should be given to the sufferer, for much of the depression depends on mental causes. With reference to the subsequent effects, constitutional or local, they should be treated on ordinary surgical principles. The strength should be supported by nutrients and wine, with such mineral or vegetable tonics as may seem appropriate. Collections of pus should be evacuated; the separation of sloughs aided by poultices and antiseptics, and the healing wounds dressed as other wounds of a similar form or character from other causes should be dressed and tended. Should symptoms of a pyæmic nature arise, we must treat them as we would do similar conditions arising under other circumstances. The result will depend on the extent of blood-poisoning and the vigour of the person. The plan of treatment suggested by Dr. Halford, of Melbourne, of injecting ammonia into the veins, does certainly seem more rational than most suggestions that have been made, and Dr. Fayrer regrets exceedingly that in his own experiments it has proved of no avail. The reason may, indeed, be in the greater virulence of the Indian Thanatophidia, and this may be the explanation of Dr. Fayrer's failure where Dr. Halford has found success. But, after all, the more venomous snake is the most crucial test.

SECT. IV.—THERAPEUTICS.

ART. 94.—*Remarks on Scientific Therapeutics.*

By SAMUEL WILKS, M.D., F.R.S., Lecturer on Medicine at Guy's Hospital.

(*The Lancet*, February 18.)

Dr. Wilks points out that the teaching of the present day, in respect to disease, must necessarily be, to a considerable extent, empirical, and that it is comparatively useless to attempt any theory or explanation of the action of the various remedies commonly employed. He bids us remember that most of our valuable remedies have come from unknown sources, and were never suggested by any theoretic considerations whatever. Turn over the pages of the *Pharmacopœia*, and see how few and valueless are those drugs which theory has proposed compared with others brought us from barbarous times and nations, such as digitalis, bark, arsenic, or ipecacuanha. Then, again, when we have found a valuable drug, and have some knowledge of its action in the healthy body, this assists us very little in the treatment of disease. For example, those which have a peculiar physiological action on the nervous system, such as opium, conium, or chloroform, are found to be of far less value in nervous diseases than quinine, zinc, or iron; whilst, on the other hand, opium and nux vomica are of more avail in any other than nervous diseases. Dr. Wilks is convinced that the vain attempt to treat a case on its merits is the grand cause of all the bad therapeutics of the present day; it has been the cause of the too prevalent dis-

carding of drugs, and of the great modern heresy—the administration of stimulants in nearly all diseases. "It seems," he says, "to be taking you a retrograde course to instruct you to regard the diseases rather than the symptoms, and lead you back to pure empiricism. But when you remember that we have at present but little knowledge of the meaning of particular symptoms, that we are ignorant of the action of medicines, and that we have not satisfactorily proved to ourselves that we ought to treat symptoms, we had better have done with theory until we get a larger insight into morbid phenomena."

Dr. Wilks argues that there are few pathognomonic signs of disease, but that diagnosis is founded on probabilities. Therefore that man forms the most correct opinion who has the best acquaintance with these probabilities; he, indeed, who has the mind most replete with pathological knowledge, who is familiar with all the diseases to which mankind is liable, as observed in the sick room or deadhouse. Thus the acutest man often fails in diagnosis because he is ignorant of the existence of certain diseases, or at least of their frequency.

To show the evil of treating symptoms and not the disease, Dr. Wilks relates a series of cases. Two cases of paralysis, one cured by tonics and galvanism, the other resisting this, but easily yielding to iodide of potassium. Next enlarged spleen cured by quinine because it arises in ague; this drug is useless in the hypertrophy of leucocythemia, but will be given long after we have done with physic, for spleen and quinine stick as closely to one another as do liver and mercury.

Then came a case of ulceration about the appendix cæci, requiring absolute rest, which nature gives by paralyzing the bowel, but the practitioner who treats symptoms only is sure to frustrate this intention. So again in typhoid fever, the "fussy practitioner" dealing only with phenomena is very apt to injure.

Dr. Wilks then passes on to observe "I wish I were relating to you an imaginary case, but unfortunately, I have the reality in my mind's eye. Such a catastrophe as this arises from treating the symptoms rather than the disease. I will give you another example:—

"The treatment of symptoms in a thoughtless and ignorant manner is not, however, fraught with so much mischief as when it is put in practice by educated men, and with 'malice prepense.' The worst sinners in this respect have been, in my experience, young men of considerable scientific attainment, and often foreigners; they could only make use of their theoretic knowledge, and had not yet discovered by a larger practical experience that it was not sufficiently sound to be put into active operation. Thus, the other day I met a young practitioner in the case of a patient who had renal dropsy, and he detailed to me the symptoms in a most elaborate manner, and went through a description of the urinary casts like a book. I was delighted, and expressed a hope that this patient would soon get well under the usual treatment—such as placing him in bed, feeding him on slops, giving him some salines, with perhaps some antimony, and an occasional purge. The doctor informed me that he had done none of these things; for, since his patient complained much of weakness, he had not wished to put him in bed; nor, indeed, for the same reason had he ventured to give such medicines as I had named; but what he had done was to order him bismuth for

the sickness, and some brandy to keep him up. As for the bowels, they had not been opened for some days; but then purging would weaken him. In fact, the most opposite treatment had been adopted to that which experience has shown us to be eminently beneficial. A gentleman came to me one day complaining of diarrhœa, of which he had been the subject for some weeks. Finding it was of a dysenteric character, I prescribed some ipecacuanha, because I knew it did good in the form of disease which this patient had, although I had not the smallest scientific conception of how it acted. In about a fortnight he was completely cured. He then showed me a prescription written by a medical man of considerable intelligence, and who had ordered him a mixture and pills. Some of the ingredients composing these were compound, but by counting them all I found he was swallowing thirty-four different drugs at one dose. The doctor had given a reason to the patient for what he had done, but the gentleman could not, unfortunately, remember the several actions of the medicines.

"One of the commonest examples of what is supposed to be a rational use of medicine is the administration of iron. In the majority of instances, I have every reason to believe, it is given because the patient looks pale. The idea is that pallor implies a deficiency in the red colouring matter of the blood, and that the colour is due to iron; therefore that person wants iron who is pale, or, to use the cant phraseology of the day, because he has a deficiency of red particles in his blood. This is a piece of scientific therapeutics which the patient can understand, and so doctor and patient are pleased with a very pretty piece of sentiment. I am not saying a word against iron, which I consider is one of the most valuable medicines in use, and I know that in chlorosis it is our best remedy; but I also know that this disease is curable by aloetic and other medicines in use, and I can inform you, too, that in many other forms of anæmia it is a remedy which is utterly useless. There is a class of cases which, for want of a better name, we are forced to designate idiopathic anæmia; patients with this disease are saturated with iron by every fresh doctor they consult, but without the slightest benefit. I hope to be able to tell you of cases which are benefited by iron, but I cannot teach you that because a man looks pale he therefore requires this metal.

"The universal use of chloral in every possible malady presents a most pitiable exhibition of the weakness of our therapeutics. Everyone who is ill has a pain or an ache, or is irritable and restless, and at length we have got a panacea. What can be thought of our art when we are so ready to catch at a new drug and administer it to everybody? Now it is chloral, yesterday it was carbolic acid, and before that, bromide of potassium. Just as, two years ago, everyone was taking this medicine, so now everyone is swallowing chloral. It is a most sorry patchwork piece of business. What I mean is this, that a man who is always ready to accept the last new remedy can have no great confidence in his former methods. And yet it is this very man who is said to be a believer in medicine.

"Every quack knows it is the theory, and not the practice, which pleases. Thus, Morrison's pills would not be swallowed unless they 'purified the blood;' nor Parr's life pills, unless they 'sustained the

vital fluids.' I have already alluded to the homœopathic doctrine, which ignores pathology and treats only symptoms. Such a doctrine I believe is quite fatal to the system. But I have something even worse to think about it; for I have much reason to believe that the mysterious dogma, 'similia similibus curantur,' much assists its supporters in administering their physic and the patients in swallowing it. I judge from my knowledge of the practice of one or two homœopathists that they do not allow their own principles to guide them. I do not wish to be uncharitable, and would in nowise quarrel with any man because he holds a different opinion from my own; but honesty is a matter of morals, and I know that these gentlemen will give large doses of quinine and opium in cases where experience alone must have been their guide, and which, after the most subtle or sophisticated handling, their doctrine could not have suggested. I know that no homœopathic doctor would ignore large doses of iodide of potassium in syphilis, although he is fully aware that the drug has no tendency to produce nodes on the bones or lumps in the testes, but rather the reverse. In a case of which I had a knowledge, a homœopathic practitioner administered quinine in large doses and used morphia by subcutaneous injection, and speedily cured the patient. There is a well-known American gentleman of the name of Barnum, and he has written a most interesting and instructive book on what he calls 'Humbug.' The author says that a man who sells an article not worth the money is a thief or a cheat; but he who gives you value for your money, but entices you to deal with him on account of some plausible tale associated with his goods, belongs to the class of whom he discourses. He alludes, amongst other examples, to a late well-known character, M. Manzin, who made a fortune in Paris by selling lead pencils there at two sous a-piece. These were excellent pencils, and well worth the money; his customers were therefore not cheated, and he was not an impostor. He did, however, richly deserve another name; for he chose to attract his customers by wearing a helmet and beating a drum, while his poorer brethren were starving. I daresay Parr's life pills are worth the money, but it is the word 'life' which encourages people to swallow them. So, really, if it be true that some homœopathic doctors foist upon their patients an inscrutable doctrine to tickle their fancy, and at the same time administer such good physic as their experience has shown them to be useful, such men are by no means to be called impostors, according to the high authority of Mr. Barnum, but they would rather come under the other appellation, which forms the title of his book."

Art. 95.—*A Critique of Dr. Wilks's Therapeutics.*

By F. E. Anstie, M.D., F.R.C.P.

(*The Practitioner*, April.)

Dr. Anstie sums up in the following conclusions the general results of his consideration of Dr. Wilks's therapeutic doctrines:—

1. It is not true that our knowledge of the action of remedies is only

empiric; still less so that in practice we do, or ever can, employ them without the aid of theory.

2. All the theories of the action of remedies which were formed in the pre-scientific period of physiology were nccessarily misleading, and the only maxims of value surviving from those times were empiric discoveries; such as sulphur for itch, quinine for intermittents, chalybeates for anæmia, &c.

3. Either the physician will (consciously or unconsciously) supplement his experience with the totally erroneous theories of the past, or he must and will endeavour to frame theories for his guidance which are in accordance with the improved physiology and pathology of his own day.

4. It should therefore be the endeavour of every intelligent physician to connect his treatment of disease with the best theories respecting diseases and remedies which the science of the day affords. Failing this, he will inevitably, in spite of himself, base his practice on those exploded theories of the past, of which he will probably have forgotten the origin and history.

Lastly, it is scarcely necessary to say that the fragmentary remarks which have now been offered, make no attempt at a full discussion of the questions suggested by Dr. Wilks's lecture; they merely indicate the outline of an argument capable of far greater elaboration. But we confidently believe that they do propound insurmountable objections to the reception of Dr. Wilks's views.

Art. 96.—*On Suggestions in Support of a Rational System of Therapeutics.**

By E. Meryon, M.D.

(*Medical Times and Gazette*, February 11.)

In a former paper Dr. Meryon showed that every ganglionic centre of the sympathetic system of nerves has three distinct elements, over and above the ganglionic cells, and that each element or nerve-cell has its own special attribute; the sensory fibres, to impart the vital sense of an organ, affecting its histological tissues, without operating immediately on its blood-vessels; the motor fibres, to incite vascular action and secretion in response to the vital sense; and the grey fibres of Remak, to restrain and regulate the stream of nutriment conveyed by the arterioles into the cell-territory for secretion or for assimilation. In the present paper the above anatomical and physiological data are utilised for the purpose of interpreting the operation of many medicinal agents. For instance, the fact shown by M. Claude Bernard, that section of the fibres of Remak induces increased vascularity and elevation of temperature in the parts to which those sympathetic nerves are supplied, has its pathological counterpart in inflammation, in which, owing to the loss of the inhibitory influence of the nerve-fibres of Remak, blood

* Abstract of a Paper read at a Meeting of the Royal Medical and Chirurgical Society, January 24.

corpuscles penetrate into those minute arterioles through which blood-plasma only should be propelled. In the spurred rye (ergota), we have an agent which produces the very opposite effect. By increasing the inhibitory influence of the sympathetic fibres, it diminishes the calibre of vessels, shuts out blood corpuscles from the capillaries, and even the blood-plasma itself, and so restrains many forms of hæmorrhage. Dr. Meryon then goes on to show that, just as the localized ganglionic centres of innervation are suggestive of independent action, and localized, accelerated, or retarded circulation is an obvious indication that the vascular function of each individual gland is regulated by such ganglionic centre, so have we medicinal agents which localize their power on special parts, either by exciting or restraining their functions. This proposition is illustrated by showing the manner in which drugs having antagonistic actions exert their influence on the different individual organs. Seeing that most pathological conditions are but extensions or exaggerations of physiological actions, and the effects of derangement of the operations of the vaso-motor nerves; seeing, moreover, that we have therapeutical agents which stimulate, or assist, or supplement the attributes of the vaso-motor nerves, on which the healthy functions of all organs depend, Dr. Meryon concludes, that in the knowledge and due appreciation of such aids we have the foundation of a rational and scientific system of therapeutics.

Art. 97.—*On the Treatment of Blood-Poisoning by a Carbolized Atmosphere Acting through the Skin and Lungs.*

By John Wood, F.R.C.S., Professor of Surgery at King's College Hospital.

(*The Practitioner*, January.)

For some time back Mr. Wood has used at King's College Hospital, in cases of pyæmic and erysipelatous blood-poisoning, and also as a prophylactic agent after operations, the vapour of carbolic acid evolved constantly under, and retained by the bed-coverings. The vapour thus remains sufficiently long in contact with the surface of the patient's body for absorption to take place into the system, as in a vapour bath or fumigation. By such means we avoid, on the one hand, the local irritation, and the retarding action of the acid upon the granulations of the wound or sore, which we leave free for the application of any other stimulating agent that may be deemed advisable, and for the regular and effective cleansing which is so powerful an aid to healthy action. We also, on the other hand, leave the stomach free from the disordering effect which the agent may and does undoubtedly cause, and more available for the administration of other stimulating and antiseptic medicines, such as chlorine, which possess greater affinities for, and are more conformable to the animal structures. For the purpose indicated, Mr. Wood employs the powder known as Macdougall's disinfecting powder. This is placed in small muslin bags to a considerable extent pervious to the dust, and wholly so to the vapour which is emitted.

These are suspended from the ribs of the cradle which is almost universally used to keep off the weight of the bed-clothes, or to swing the limb in surgical cases. Where these are not used, the small bags placed on the bed, near and around the wound, are quite as effective. Mr. Wood has never yet found in any case the presence of the dust to be complained of as irritating to the skin of the patient, and he has used them with the best results in severe cases of traumatic erysipelas. He also employs the powder, freely spread under and around the bed, in all putrefying and infectious cases, and the floors are washed with a solution of the common carbolic acid, so as to pervade the atmosphere very sensibly. As regards the effect upon the wound itself, it seems to do all that is ordinarily necessary to keep the parts totally free from putrescence, or smell of an offensive kind, when large sloughs are not actually present, and the wound very putrescent. When such are present, Mr. Wood has usually used, in addition, the carbolic oil, of the strength of one part in six or eight, as a direct application, so as to saturate the sloughing part. In doing so, care is taken to avoid contact of the oil with the surrounding skin or with healthy granulations, upon which it has invariably the effect of retarding development and cicatrization. The perfect freedom of the beds, even in the worst cases, from smell and offensiveness is very remarkable, and this alone cannot but be beneficial to the patient's condition, and adds to his power of resisting septic influences. In one case of undoubted pyæmic infection after operation, the effect of the absorption of the acid was evident both in the breath and in the urine. The latter presented for the space of a week, a characteristic slate-coloured film and deposit. Some of this was collected and analyzed, and was stated to be a modification of the colouring matter of the urine, and to be, in fact, identical with the ordinary blue indigo, and probably formed by transformation of the yellow indigo of the excretion. Since that time Mr. Wood has observed that a similar sediment has been seen in other cases subjected to the action of carbolic acid.

ART. 98.—*Oakum and Carbolic Acid as an Antiseptic Dressing.*

By JOSEPH LISTER, F.R.S., Professor of Clinical Surgery in the University of Edinburgh.

(*British Medical Journal*, January 14.)

Having heard reports from various quarters of the efficacy of oakum, Mr. Lister has lately put it to the test with granulating sores, where, if it should happen to fail, no mischief would result, and he has found it more than answer his expectations. The reason for its superiority over oily cloths is readily intelligible. Each fibre of the oakum is imbued with an insoluble vehicle of the antiseptic; so that the discharge in passing among the fibres cannot wash out the agent any more than it can when flowing beneath the lac-plaster, to a narrow strip of which an individual oakum fibre is fairly comparable.

Oakum not only proved efficient antiseptically, but presented several advantages over lac-plaster. When the latter is left as a dressing for

several days together, the discharge, even though small in amount, soaking into the absorbing cloths, loses the carbolic acid it had received from the plaster, and putrefying from day to day, assumes an acrid character, and sometimes produces most troublesome irritation of the skin. This is, of course, avoided by the oakum. Again, the lac-plaster being quite impermeable to watery fluid, keeps the skin beneath it moist, and, in fact, covered with a weak watery solution of carbolic acid, which, Mr. Lister suspects, insinuates itself, more or less, beneath the protective, and maintains a slight stimulating influence upon the parts beneath it. But oakum, draining away the discharge as fast as it is effused, avoids this source of disturbance. The result is, that if a granulating sore is thoroughly washed with an antiseptic lotion and covered with "protective" and a well-overlapping mass of oakum secured with a bandage, a dressing is provided which nearly approaches the ideal Mr. Lister has long had in view. This protective is made by varnishing oiled silk on both surfaces with copal varnish, which renders it considerably less permeable to carbolic acid, and when dry it is brushed over with a mixture of starch and dextrine to give it a film of material soluble in water, so that it becomes uniformly moistened when dipped into the antiseptic lotion. It may be obtained of the Apothecaries' Company, Virginia Street, Glasgow. When it is not at hand, common oiled silk may be used as a substitute for it, if smeared with an oily solution of carbolic acid, and used in two layers to make up for its inferior efficiency.

Art. 99.—*Clinical Records of Antiseptic Dressing by Carbolic Acid.*

(*The Lancet*, January 14.)

At St. George's Hospital, Mr. Holmes, after carefully observing its application by Prof. Lister, has given the carbolic antiseptic treatment a long and careful trial, which has been followed by such marked results as to raise it high in the esteem and confidence of the hospital staff. It has been found that the proportion of wounds that heal by first intention is decidedly greater than where no antiseptic is employed; in others, in which it has occurred, suppuration has been much less than might have been expected. It is a valuable safeguard against putrefaction, and it confers a remarkable immunity from surgical fever, and the other deviations from health which are apt to complicate the healing of wounds. Mr. Holmes' most marked successes have been in the treatment of abscesses, and in the conversion of compound into simple fractures.

Middlesex Hospital.—Mr. Hulke has applied the carbolic treatment to a variety of cases, with very good results; but he is not prepared to assert that it has any advantage over chloride of zinc, either as to the production of immediate union or in the maintenance of a healthy condition of discharges. He believes carbolic acid lotion (strength of two grains to the ounce) to be a very serviceable injection in chronic cystitis; the acid is not, he says, absorbed from the surface of the

bladder, and in no case where it has been thus applied has he observed the train of symptoms and condition of urine which are said to be associated with its use.

London Hospital.—Mr. Couper has been kind enough to furnish us with the main results of the extensive trial which carbolic acid dressing has received at his hands. Since September, 1869, he has used Lister's antiseptic dressing in about fifty important cases. The majority of them were conspicuous for the small amount of constitutional disturbance produced by very severe injuries. The patients after a few days were free from pain, they ate and slept well, and had an appearance of health by no means usual after extensive wounds. Measured by the thermometer, the wound fever was of short duration, and was occasionally absent altogether.

In some instances, the urine was black for one or more days after the first dressing, but in no case was the carbolic acid absorbed into the blood in such quantity as to cause symptoms of poisoning. Mr. Couper does not now regard the discoloration of the urine as of any moment.

The immunity from erysipelas and pyæmia was most marked. There did not occur one instance of pyæmia. One case only was attacked with erysipelas—a case of scalp wound, in which there was present an abrasion of the ear, which was not protected by any dressing; the swelling and tenderness distinctly spread from the face and neck to the scalp.

One patient took erysipelas nine days after the antiseptic dressing had been abandoned. He had recovered from an extensive compound fracture of the skull, in which the trephine had been used. Only one patch of skin granulations, less than half an inch broad, remained unhealed, when the carbolic dressing was laid aside in the belief that it had become too stimulant and prevented the granulations from drying up.

To apply the dressing successfully, it is, Mr. Couper believes, necessary to remember that carbolic acid is a stimulant as well as an antiseptic. If kept sufficiently long in contact with an *open* wound, so far from preventing the formation of pus, it stimulates granulations and increases and prolongs suppuration.

The aim should be to secure the antiseptic action without any stimulation of the wound. Generally this is best attained by stitching the skin-edges accurately together with fine carbolized silk. By this means the skin itself is made to shield the deeper portions of the wound from stimulation.

The experiment of dressing two similar wounds of the calf—for which no stitches were used—the one with strips of wet lint, and the other with Lister's dressing, showed the process of filling up by granulation to be materially slower under carbolic dressing thus used (or misused) than under wet lint.

Mr. Couper's experience further tends to show that an antiseptic state of the fluids within a wound is but one of many conditions necessary for union without pus. Complete apposition of the surfaces, and the absence of all gliding of one surface on the other, are at least as essential. Unless these conditions be secured the antiseptic is power-

less to prevent suppuration. For this reason deep sutures often contribute to complete success. Carbolized catgut is the most suitable material for this purpose.

Seven out of eight successive cases of compound fractures of long bones were converted into simple fractures, either with or without a small patch of surface-granulations, which dried up slowly. There was no pus given out, except from the surface-granulations, and its amount was insignificant. The eighth case made an excellent recovery after exfoliation of a portion of the tibia. Suppuration was delayed for nearly three weeks, and the wound continued antiseptic after its occurrence.

Two compound fractures of the skull healed without any suppuration. In one there was depression, and the trephine was used. In the other the outer table only was ascertained to be somewhat deeply indented.

Several deep-seated collections of pus were emptied antiseptically, with most satisfactory results. One man made an excellent recovery after a severe illness caused by an abscess in the left kidney. An equally good result followed in two instances of large abdominal abscess, caused by pelvic cellulitis after parturition.

Art. 100.—*Carbolic Acid as a Remedy for Carbuncle.*

By J. C. Nott, M.D.

(*New York Medical Journal*, January.)

Dr. Nott advocates the local use of carbolic acid in carbuncle, and publishes an obstinate case which was promptly cured after seven applications. He believes this so-called acid to be more penetrating in its action, more efficient as an antiseptic, than subsulphate of iron, advocated by Dr. Blake, of New York, in the treatment of fibrous tumours of the uterus.

Art. 101.—*On the Local Treatment of Diphtheria by Means of Carbolic Acid.*

By Dr. Rothe, of Altenburg.

(*Berliner klinische Wochenschrift*, 1870.)

1. The carbolic acid must be used in a tolerably strong solution (1 part to 5). Dr. Rothe prefers an alcoholic solution, since in this way he utilizes at the same time the vaunted effects of alcohol. The offensive smell of the carbolic acid is removed by iodine.

2. The affected parts must be well painted with this solution, and at the commencement of the disease, several times during the day. With grown-up children and adults a gargle, consisting of a weaker solution of the acid, should also be prescribed.

3. The stronger solution of carbolic acid does not act altogether as a

caustic upon the affected mucous membrane. It seems to filter through the false membrane, under which, as a rule, a normal mucous membrane soon makes its appearance. It seems also to avert septic infection.

4. In no case has a further extension of the disease been observed, nor any subsequent persistent paralysis of the palate or pharynx—nor indeed any kind of secondary affection. Perfect recovery always takes place speedily.

5. This brushing of the affected parts with carbolic acid is well tolerated. Only when the epiglottis is touched does any coughing occur. Care should be taken to prevent any of the solution from coming in contact with the tongue.

Art. 102.—*On a New Method of Arresting Surgical Hæmorrhage by the Artery Constrictor.*

By S. Fleet Speir, M.D., Surgeon to the Brooklyn City Hospital.

(*The Medical Record*, April 1.)

The instrument designed by Dr. Speir is offered as a substitute for the ligature, acupressure, and torsion. It consists of a flattened metal tube, six inches (more or less) in length, open at both ends, with a sliding steel tongue running its entire length, and having a vice arrangement at the upper extremity, by which it can be made to protrude from or retract within the tube or sheath. The lower end of the tongue is hook-shaped, so as to be adapted to the artery to be constricted. It is so shaped that, having grasped an artery, it can be made to contract upon it by means of the vice at the upper end, which forces it within the sheath.

The hook of the tongue is so shaped and grooved as to form only a compressing surface, by which means the artery, when acted upon by the force of the vice, is compelled to assume the form of the curve of the tongue, and the artery is constricted in such a way that its internal and middle coats give way, but the external coat is preserved intact. The severed internal and middle coats contract, retract, curl upon themselves, and are driven down the artery in the form of a plug by the continued pressure of the grooved tongue as it passes on into its sheath. The artery may now be slipped out of the instrument, and it will be found that the external coat has been compressed at the point where it was in contact with the instrument, and the internal and middle coats will be found severed and invaginated on either side of the constriction. This invagination of the internal and middle coats is of itself sufficient to arrest the flow of blood; and as soon as the current of blood is arrested in the vessel, a coagulum forms upon the invaginated surface of the internal and middle coats, and this completes the occlusion of the artery.

The principle upon which the artery constrictor aets is the same as that which nature follows in her efforts to restore the integrity of a divided artery and arrest hæmorrhage. It is based upon the anatomical structure and peculiar properties of the arteries, and is, in fact, the principle upon which all successful methods for closing arteries are based.

The advantages claimed for the constrictor are—

1st. It is efficient.

2nd. It is safe.

3rd. It is easily applied.

4th. No internal coagulum is necessary, as the invagination of the internal and middle coats is sufficient to arrest hæmorrhage; it is, therefore, applicable where the blood is anæmic, &c.

5th. No foreign body is left in the wound, thus favouring union by the first intention.

6th. There is no risk of pyæmia or phlebitis.

7th. It is applicable to all sizes and to all conditions of the arteries where the external coat is perfect.

8th. It is a mechanical appliance which has a uniform effect, and it requires but little skill or practice in its application.

Art. 103.—*On Chloral Hydrate.*

By Benjamin W. Richardson, M.D., F.R.S.

(*The Lancet*, February 11.)

Before commencing his lecture on Experimental and Practical Medicine on February 7th, Dr. Richardson offered the following observations on the subject of Hydrate of Chloral. He said:—

My lecture to-day is on Suspended Animation, but I will ask you to allow me first to offer a note or two on another subject, at this moment of urgent importance. I refer to the administration of the hydrate of chloral. There have recently been two assured deaths from the hydrate. In the course of the past ten days I have myself been consulted not fewer than three times on what have been considered dangers attending the administration of the hydrate, and I know generally that doubt and uneasiness prevail in the profession respecting the abuse as opposed to the use of this agent. I think it right, therefore, as I had much to do in introducing hydrate of chloral into medical practice in England, to answer a few of the questions that are most pressing from this place, where so many demonstrations of the action of the hydrate have been carried out.

1. *Is the practice of resorting to the use of hydrate of chloral, as a narcotic, in the absence of medical advice and direction, becoming a common practice among the people?* The answer to this question is strictly affirmative. The novelty of its administration and of proving its effects at an end, the hydrate is not at the present time used so largely by the medical profession as it was a few months ago, when its true place in the Materia Medica was less clearly defined. The sale of the hydrate of chloral to medical men is consequently considered as declining, while the general sale is, perhaps, increasing. Corresponding with this state of things we, in the profession, are becoming conversant with cases of what may not improperly be called "chloral drinking," and in which serious and singular symptoms are presented. Three classes of people specially resort to hydrate of chloral—viz., alcoholic devotees, who take

the substance to counteract excess of alcohol and to relieve alcoholic delirium; sufferers from neuralgia and other painful chronic diseases, who find in the substance temporary relief from pain; and persons having much mental worry, grief, or care, who, flying to it at first in order to obtain sleep, continue it until the occasional practice becomes a persistent habit. As an indication of the quantity of hydrate of chloral used in this country since its introduction here about a year and a half ago, I may state, incidentally, on what I have every reason to consider reliable authority, that one commercial house alone has supplied the English drug market with ten tons of the substance; three other houses have, it is supposed, supplied as much; so that fifty tons weight have been, on this calculation, sent out—an amount which, divided into grains, would yield over thirty-six millions of narcotic doses to England alone since August, 1869.

2. *What is a dangerous and what is a fatal single dose of hydrate of chloral?* The largest dose I have known to be taken is 120 grains. This dose produced a prolonged and dangerous coma, but recovery ultimately followed. I think we may consider 120 grains as a maximum dose for an adult, dangerous, but not of necessity fatal. Beyond 120 grains the danger increases, and 180 grains may be considered a dose that would prove, in the majority of cases, positively fatal.

3. *What quantity of hydrate of chloral can be given with safety in divided doses during a stated period of time, say of twenty-four hours?* Judging from the physiological effects of hydrate of chloral in relation to dose, and to order of phenomena in relation to time, I should infer that the body cannot decompose and throw off the hydrate more rapidly than at the rate of from five to seven grains per hour. There will be difference, according to age of person, the temperature to which the body is exposed after the dose has been taken, and the largeness of the dose, a small dose being disposed of quicker in proportion than a large one. But the variation is not such as to alter materially the rate of action from the estimate given. I should consider, consequently, that 120 grains, administered, even in divided doses, in twenty-four hours, would be the safe limit of administration. In the treatment of tetanus this proportion has been exceeded, but not, I think, to the safety of the patient, for the fact that the hydrate of chloral overcomes or reduces the spasm is no safeguard against its own poisonous effects. From what I know, I conclude that the hydrate of chloral can be given to the extent of overcoming the severest spasm, but if the dose be carried too far, with the determination of removing spasm at all risks, the success may easily be bought at the expense of a fatal narcotism from the remedy.

4. *Does the frequent administration of hydrate of chloral lessen or increase the danger of administration?* On this question I am forced to state that the frequent administration of the hydrate of chloral, though it may suggest greater confidence in it on the part of those who take it, increases the danger from an excessive dose. Hydrate of chloral differs from opium in this respect. Opium produces chronic symptoms peculiar to itself, but the dose may be steadily increased without any immediate danger from the increase. Hydrate of chloral cannot be used in this accumulative way without danger. In a word, although a person may become

habituated to hydrate of chloral, there is a limitation of the quantity to be taken safely, which limitation is not materially modified by persistence in the habit of taking it, but rather the reverse.

After discussing three other questions relating to the symptoms and pathological changes incident to the habitual use of chloral hydrate, to the chemical tests for the hydrate in cases where it had caused death, and to the post-mortem distinctions in instances of chronic poisoning by the hydrate, and by chloroform, Dr. Richardson concluded by observing that, as the world was indebted to the profession of medicine for the benefits derivable from the hydrate of chloral, it behoved the members of the profession to use their influence in protecting the public from an agent which, under improper use, might be turned from its good purpose to positive evil.

Art. 104.—*On Hydrate of Chloral.*

By Professor Skoda.

(*Allgemeine Wiener Medizinische Zeitung*, No. 4, 1870.)

Hydrate of chloral proves itself to be in painful affections a very beneficial pain-relieving and sleep-producing preparation. When taken into the body it is decomposed, and the chloroform, which is one of the products of decomposition, causes sleep, unconsciousness and insensibility, conditions which persist as long as decomposition is carried on.

To produce sleep in an adult male, it generally suffices to administer a half-drachm dose of the preparation, either at once or on two occasions, with a short interval between the first and second half-doses. It may be dissolved in one ounce of water, or be given with syrup of orange-peel or some other agreeable syrup.

The above dose soon produces sleep, which is usually preceded by a state of mental confusion resembling drunkenness. Bad symptoms have not been observed as a result of the sleep produced by this agent, and, what is strange, since chloroform, as is well known, when given as a narcotic frequently causes vomiting, no diminution of appetite follows the administration of hydrate of chloral. In fact, the appetite is generally somewhat increased.

The use of hydrate of chloral, therefore, may be attended with beneficial results, and it is indicated in painful affections. It is probable that with painful affections due to morbid changes in the brain, this agent may bring about relief without producing any bad effect upon this organ.

Hydrate of chloral is not adapted for producing narcosis during operations; its appropriate use seems to be that of an internal medicine.

With drinkers hydrate of chloral, like all other narcotics, is an unsuitable remedial agent.

Prof. Skoda has almost constantly observed sleep in a short time after the administration of hydrate of chloral, which sleep was deep and beneficial, and not, as in the case of opiates, followed by any bad results.

Art. 105.—*On Nitrous Oxide Gas, and its Use as an Anæsthetic.*

By Dr. Maclaren, Carlisle.

(*Edinburgh Medical Journal*, January.)

In this paper Dr. Maclaren describes the history of the discovery of nitrous oxide gas, the mode of preparation, and best method of administering it. In the majority of cases the patient is off in one minute and twenty seconds; and that this is accomplished, is recognised by a peculiar change in the appearance of the patient, or by a nervous twitching of the hands. The pulse sometimes intermits for a beat or two at this time, and the breathing may be arrested for a period equal to four or five respirations. The hearing and memory for auditory impressions often remain acute after the other senses are in abeyance. There is no struggling or excited stage as in chloroform, and recovery is usually rapid and complete. The room should be kept perfectly quiet during and after the administration of the gas. The time required to produce insensibility varies from forty-five seconds to two minutes and thirteen seconds. The quantity of the gas required varies from two and a half to six gallons, the average quantity being three and a half gallons. Dr. Maclaren conceives its advantages as an anæsthetic are:—1. Its safety, only two fatal cases having been recorded. In one of them the lungs were riddled with tubercles, and in the other the cork used as a plug to keep the teeth apart was found in the pharynx. 2. The absence of troublesome after-effects. 3. The rapidity of administration. 4. The position. 5. The absence of anything disagreeable in the smell or taste of the gas. Its disadvantages are:—1. The rapidity of recovery from its effects. 2. It is rather troublesome to administer; and 3. The apparatus for making and administering it is costly. Dr. Maclaren thinks its use should be avoided in all cases of diseases of the lungs, in which the breathing of the lungs is much embarrassed, and when there is evidence of serious brain or heart disease.

Art. 106.—*On the Treatment of Pneumonia by Large Doses of Ipecacuanha.*

By M. E. Bassereau.

(*Echo Médical et Pharmaceutique Belge*, No. 1, 1870.)

"The good results obtained by M. Chauffard, from the administration of ipecacuanha in cases of free acute pneumonia, have induced me to give an explanation of this mode of treatment, the advantages of which practitioners cannot fail to appreciate. M. Chauffard uses no absolute formula, follows no inflexible rule, but endeavours as far as possible to follow the indications presented by the attack of pneumonia. The ipecacuanha is given in doses varying from five to eight grammes, and is associated with cupping or the application of flying blisters.

"The following is the treatment of a patient, arrived at the third day of a pneumonic attack: here there is high fever, a high axillary temperature, tubular breathing, and extensive dullness over one side of the chest.

"The patient to take every hour one teaspoonful of an infusion of six grammes of powdered ipecacuanha in two hundred grammes of water, and to have applied immediately over the affected portions of the lung eight cupping-glasses with the scarifier, so as to remove four hundred grammes of blood.

"Under the influence of these combined methods of treatment, the patient will not fail to have four or five attacks of vomiting, and also one or two of purging. These effects of the treatment are variable; some subjects vomit much and are not purged; others are only purged; in some there are abundant evacuations both ways. The patients are not much weakened by these results, and an interruption of the medication suffices to arrest at once the gastro-intestinal disturbances.

"*If the remedy be absolutely tolerated, it does not act well in pneumonia.* This ought to be borne in mind. It is necessary to remark that, on the other hand, the first day of this treatment is the only one in which the above-mentioned symptoms occur. At the end of twenty-four hours, or even sooner, tolerance is established, and the patients have rarely more than two attacks of vomiting and one stool on the following day, although the dose of the medicine may have been considerably increased.

"The indication for the above-mentioned dose of ipecacuanha is in no way modified by the sex or age of the patient. The violence of the affection ought to serve here as the chief guide. The high dose is kept up for the first two days of the treatment, and on the third day diminished by one or two grammes. The treatment should be continued for four or five days, the rule being to suspend the administration of the ipecacuanha as soon as the pulse has been lowered and the temperature brought back to its normal state. The fever diminishes on the second or the third day of the treatment, though the auscultatory rigors may persist; this is the time, according to Dr. Chauffard, for applying a large flying blister to the chest.

"In cases of slight pulmonary phlegmasia, or when pneumonia has reached the stage of decline, three grammes of ipecacuanha suffice to bring about a normal state of things in the course of twenty-four hours.

"This treatment is as beneficial as it is simple, and if the patient recovers speedily, one has the satisfaction of knowing that a cure is perfected without exposing the patient to considerable prostration. Consequently the convalescence is rapid and uninterrupted. Ipecacuanha in the treatment of pneumonia is far preferable to tartar emetic. It is, as I have frequently made out, an excellent counter-stimulant, which reduces the pulse and lowers the temperature in a really marvellous manner."

Art. 107.—*On the Value of Tincture of Arnica in the Treatment of Acute Pulmonary Affections.*

By C. C. Balding, M.R.C.S., L.S.A.

(*The Lancet*, December 24, 1870.)

Mr. Balding calls the attention of the profession to the value of tincture of arnica in the treatment of pneumonia and other acute pulmonary affections. Some years ago Mr. Mitchell Henry, then assistant-surgeon at the Middlesex Hospital, wrote an article in the *Lancet* advocating its use in allaying irritative traumatic fever. A few weeks after the appearance of that article Mr. Balding was summoned to a man, a railway porter at Shefford, who had been squeezed between the buffers of two trucks. Mr. Balding found the sternum depressed, and, consequently, dislocation of sternal ends of both clavicles; he was suffering acute pain in the chest, and was almost in a state of collapse, and, from his condition, the author feared injury to the lungs. With difficulty the sternum was placed in position, and when he rallied, which he soon did, Mr. Balding gave him five minims of tincture of arnica every four hours. The pulse kept down; he had no febrile disturbance whatever, and in a few weeks resumed his usual occupation.

It then struck Mr. Balding that a drug exercising such a powerful effect upon the heart's action must be of benefit in acute pneumonia, and he determined to give it a trial. Its good effects exceeded the author's hopes, and since then he has treated all his cases of acute pneumonia in adults with the remedy, for such he calls it, as he has never known it to fail. Mr. Balding employs it also in acute hæmoptysis; but when there is extensive tubercular disease of the lungs, he has not found it lower the circulation.

Mr. Balding used to give but five-minim doses of the drug, but since the *Pharmacopœia* of 1867 has contained a formula for the tincture, which is evidently weaker than that previously in use, he gives ten minims. Mr. Balding asks those who may be induced to give arnica a trial, not to be dismayed should no benefit be apparent in twenty-four hours, but to continue the medicine, and he feels sure the effects will be unmistakable in forty-eight hours; but he has seldom seen a case really get worse from the time the arnica was commenced.

Art. 108.—*The Effect of Exercise upon the Bodily Temperature.**

By T. Clifford Allbutt, M.A., M.D. Cantab., Member of the Alpine Club, &c.

(*British Medical Journal*, February 18.)

The object of the author in carrying out the experiments recorded in the present paper was to inquire whether the regulating power of the

* Abstract of a Paper read before the Royal Society.

organisms held good under great variations of muscular exertion. For this purpose he made frequent daily examinations of his own temperatures during a short walking tour in Switzerland, and found that the effect of continuous muscular exertion upon himself was to sharpen the curve of daily variation, the culmination being one-tenth or two-tenths higher than usual, and the evening fall coming on more rapidly and somewhat earlier. Sixteen charts of the daily temperatures were handed in with the paper. The author made reference also to some observations of M. Lortet, which differed from his own. These observations, which did not come into Dr. Clifford Allbutt's hands until his own experiments were partially completed, were adduced by M. Lortet to prove that the human body was very defective in regulating power under the demands of the combustion needed to supply the force expended in muscular exertion. Dr. Clifford Allbutt's results were very decidedly opposed to those of M. Lortet, for only on two occasions did he note the depressions of temperature which M. Lortet regards as constant. It would seem, however, that the body is more or less liable to such depressions when engaged in muscular exertion, but the cause of them is very obscure. Of the two low temperatures noted by the author, one occurred during a very easy ascent of lower slopes, and the second was observed during a descent. The author thinks that they may be due to some accidental deficiency in combustion, and inquires whether the capacity of the chest in different individuals may account for the varying influence of muscular effort upon them, and perhaps for the earlier or later sense of fatigue.

The sphygmographic tracings added by M. Lortet to his temperature-charts seemed to show a great inadequacy of circulation.

Art. 109.—*On the Employment of Chromic Acid in certain Affections of the Mouth.*

By M. Magitot.

(*Echo Médical et Pharmaceutique Belge*, No. 8, 1870.)

"Chromic acid, which may be substituted with great advantage for nitric acid and chloride of zinc in the treatment of condylomata and of various formations of an epidermic or epithelial nature, has been utilized by Dr. Magitot in some forms of stomatitis, and especially in several kinds of gingivitis, from the local form of this latter affection caused by dentition, as in the cutting of a wisdom tooth for example, to that form known as ulcerative stomatitis. M. Magitot has made use of the same agent in the treatment of aphthæ, but the affection which seems to be the most favourably influenced by chromic acid is alveolo-dental osteo-periostitis, a very obstinate disease, which is sometimes dependent upon a constitutional disorder, as diabetes or albuminuria, but which may be also isolated and special, and against which in the latter case chromic acid acts as a very powerful therapeutical agent.

"In local stomatitis, when the affection is not kept up by the presence of a foreign body, as the remnant of the root of a tooth, chromic acid is very useful in keeping down the ulcerations or fungosities at the edges of the gum. Its employment is often indicated, writes M. Magitot,

when, in consequence of the evolution of a wisdom tooth, the mucous membrane of the base of the anterior pillar of the fauces and that of the corresponding cheek becomes the seat of inflammatory complications. Several applications of chromic acid may, even without previous excision, reduce the volume of the inflamed tissues and bring on rapid cicatrization. The acid is equally useful for fungosities and the different vegetations which often accompany gingival fistulæ produced by chronic periostitis or osteo-periostitis. With subjects affected with general gingivitis, when the application of some caustic is generally thought necessary, M. Magitot holds that chromic acid should be preferred to any other caustic agent, as it exerts a very energetic action, and at the same time does not affect the parts near the seat of its application. The following case of a lady, who consulted M. Magitot for an affection of the mouth, is reported :—

"The gums were red and ulcerated, and covered by layers of detached epithelium ; the mucous membrane was separated from the roots of the teeth and bled at the slightest touch. The teeth were loosened ; a heavy, constant, and general pain occupied the two dental arches ; mastication was very painful, almost impossible. The patient could take only soft or liquid food, and there had been marked emaciation since the commencement of the disease.

"Under these conditions, after an unsuccessful treatment with chlorate of potash, nitrate of silver, and tincture of iodine, M. Magitot applied chromic acid along the whole length of the free borders of the gums by means of a small stick of wood. Two days after this there was very marked improvement, and the pain, salivation, and hæmorrhage had been relieved. The gums were not so red, and the ulceration had ceased at several points. A second application of chromic acid in crystals was then made along the free borders of the gums. Pastilles of chlorate of potash were prescribed at the same time. M. Magitot again repeated twice the application of the chromic acid at intervals of two days. After the fourth application, and at the eighth day from the commencement of the treatment, the patient was completely cured, and the gums had regained their normal appearance, and the functions of the mouth were regularly performed. The patient continued for a short times afterwards the pastilles of chlorate of potash.

"M. Magitot also reports several cases of obstinate mercurial stomatitis and of alveolo-dental periostitis, and also one of epulis, in which the application of chromic acid was attended by very satisfactory results."

Art. 110.—*The Value of the Liquor of the Pernitrate of Iron, in Combination with Calumba, in cases of Chronic Mucous Diarrhœa.*

By Edward J. Cooke, A.B., M.B.T.C.D. ; Surgeon to the Worksop Dispensary and Cottage Hospital.

(*British Medical Journal*, December 10, 1870.)

Dr. Cooke gives several cases treated most successfully in this manner. He mentions that out of upwards of five hundred cases of

diarrhœa which have come under his care since June last, some few have assumed the chronic mucous form; and his experience is this, that in the combination of the liquor ferri pernitratis with calumba, we possess a most invaluable remedy in the treatment of this form of diarrhœa, and most particularly when met with in persons who are constitutionally weak; the iron in such case curing the diarrhœa as much, perhaps, by its strengthening as by its astringent effect. Dr. Cooke has seen a few cases in which this treatment has not succeeded as satisfactorily as one would wish, the iron sometimes causing nausea, &c.; such cases being, however, very exceptional.

Art. 111.—*Perchloride of Iron in Paralysis of the Bladder.*

By C. H. Watts Parkinson, M.R.C.S.

(*Medical Times and Gazette*, December 24, 1870.)

Mr. Parkinson reports a case of retention of urine in a man, aged seventy-four, who had for the last few years been subject to attacks of retention of urine, which had been relieved by warm baths, &c., without the use of the catheter. On the present occasion the suffering was considerable, and the ordinary means failed, but a large quantity of urine was drawn off by a prostatic catheter. During the next few days the urine was drawn off daily, but the urethra began to be irritable; there was stillicidium and great constipation. After the lapse of a week, the old man fell into a low typhoid state, with dry brown tongue and feeble pulse, whilst hæmorrhage followed each introduction of the instrument; the urine was loaded with phosphates, mucus, &c.; the bladder did not contract in the slightest degree. Under these circumstances, as the water had been drawn off, Mr. Parkinson injected, morning and evening, six ounces of a weak solution of tincture of iron, which was retained in the bladder for about half a minute. The next day there was slight contraction of the bladder, and on the following day the bladder contracted well on the instrument after the injection; he passed small quantities of urine occasionally during the day voluntarily, and there was no overflow. From this time the patient continued to improve, and was able to command his water better than for some time previous to the attack. The favourable result appears now to have been fairly attributable to the perchloride of iron injected.

Art. 112.—*On the Physiological Action of Arsenic.*

By M. Blachiz.

(*Gazette Hebdomadaire*, No. 8, 1871.)

"The study of the action of arsenic when this agent is administered internally and acts by absorption, is one of great difficulty, and the best authorities of the present day differ as to the interpretation of its results.

"The statements made by Schallgruber, Flechner, and especially Tschudi concerning the arsenic-eaters of Styria and lower Austria have been confirmed by recent authorities and placed beyond the reach of doubt. This practice is carried out for the purposes of giving freshness to the countenance and a certain degree of general *embonpoint*, and of facilitating respiration during mountainous ascents. The arsenic-eaters feel light, and are not readily put out of breath. The doses at first vary from two or three centigrammes; some arsenic-eaters are enabled by long-continued use to take from twenty to twenty-five centigrammes. In Austria horse-dealers administer arsenic to horses which they desire to sell. The horses thus treated are better nourished and make more money; their skin is bright and their form rounded. The coachmen of Vienna make a similar use of arsenic for the purpose of improving the pace and appearance of their horses.

"Clinical facts present some analogy to those just mentioned. We will point out, in the first place, the results of observation, and afterwards consider the various interpretations which these have received.

"When arsenic is given in small doses, from five milligrammes to one or two centigrammes progressively, more or less constant effects are observed in different parts of the body. We say 'more or less constant,' because individuals are frequently met with who are able to support an arsenical course of treatment without sensible reaction.

"At the same time, when a slight sensation of heat is felt at the back of the throat and along the course of the œsophagus, the appetite is generally sharper and digestion more active. When this sensation of heat persists and is associated with nausea, diarrhœa and colic, it may be presumed that the proper dose has been exceeded. As an immediate result of the increase of appetite, nutrition is improved, and the *embonpoint* augmented. These effects are not constant; there may be intolerance of the remedy in spite of all precautions.

"The action of arsenic upon the respiratory functions has not been clinically demonstrated, but it is understood that in certain affections of the organs of breathing arsenic gives the best results.

"With regard to the circulation, a rosy coloration of the face is often observed. In therapeutical doses arsenic does not seem to exert any marked action upon the heart; in medium doses it retards and in poisonous doses, accelerates the pulse. One of the most constant results of an arsenical treatment is the very marked diminution in the quantity of urea eliminated in the course of twenty-four hours.

"The temperature is lowered. The central nervous system does not seem to be affected by medicinal doses. The urinary secretion is augmented. Sometimes slight salivation is observed, more frequently diarrhœa.

"The skin is not habitually affected by the prolonged administration of arsenic in small doses. There is produced, however, in certain cases, a modification of the pigmentary material, marked by brownish spots, which present for a long time urticaria and certain forms of eruption, including those of a pustular form, have also been observed.

"These facts are exceptional with non-poisonous doses. Swelling of the eyelids and lachrymation have also been observed.

"Arsenic is eliminated in various ways; by the skin and various

cutaneous secretions. M. Chatin found arsenic in the serosity of a blister, and MM. Bergeron and Lemaitre found it in the sweat. We have seen that the mucous membranes readily become affected, and this, without doubt, is owing to the fact that they serve as passages of elimination. Arsenic has also been found in the saliva and in the tears. The bile may contain considerable quantities; and what proves the importance of the liver in the process of elimination is the steatosic change of this organ in cases of arsenical poisoning. It is by the kidney, however, that elimination is specially performed. When this is abundant it is accompanied by a certain degree of albuminuria."

Art. 113.—*On the Therapeutical Use of a New Indian Remedy, the Ailantus Excelsa.*

By Narayan Daji, of Bombay.

(*Asiatic Press of Bombay*, 1870.)

The Ailantus Excelsa, belonging to the natural order of Simarubaceæ, is a large tree indigenous to India and Ceylon. The medicinal part is the bark, which is stripped off the tree in long flat pieces, and is denuded of its epidermis. The active principle, according to the researches of Mr. Daji, appears to be an uncrystallizable bitter substance in combination with various bases, and other matters, and the medicinal virtues of the bark depend entirely upon an azotized principle of an acid nature, to which the author proposes to give the name of ailantic acid. This acid is of a waxy consistence, of a reddish-brown colour, deliquescent, very soluble in water, uncrystallizable, and of a purely bitter taste. As the tree belongs to the order of Simarubaceæ, to which the Picrœna excelsa or Jamaica Quassia tree also belongs, it may be inferred that it possesses the characteristic properties of that order, and such is in fact found to be the case. The Indian tree is the representative in the East of the Quassia in the West. The ailantic acid given in doses from one to three grains acts as a tonic and stomachic, exciting the appetite and promoting digestion. It is, therefore, useful in cases of atonic dyspepsia, accompanied with loss of appetite, and Mr. Daji states that he has found it serviceable also in diarrhœa and cholera, and in remittent and intermittent fevers, although its anti-periodic powers are not trustworthy. The Ailantus bark may be prescribed in the form of decoction infusion extract, or tincture. The dose of the decoction is from one to two fluid ounces, twice or thrice a day; that of the infusion is the same; the dose of the tincture is from half a drachm to two fluid drachms; and that of the extract is from three to five grains.

Art. 114.—*On the Use of Calabar Bean in Tetanus.*

By D. C. Black, M.D.

(*British Medical Journal*, March 4.)

Dr. Black records a case of tetanus, in which the Calabar bean was

employed, and, although the case proved fatal, he thinks that the physiological properties of the bean render its use admissible. The patient was a boy, aged eleven, who had sustained an injury to the right foot, followed by an epileptiform seizure, but which Dr. Black found to be due to an attack of tetanus. He applied poultices saturated with laudanum to the wound, and ordered the internal use of the Calabar bean, four grains of the extract being dissolved in an ounce of water, and twenty drops of the solution being given as a dose every hour. There seemed at first some abatement of the violence of the paroxysms, but the improvement did not continue, and larger doses of the bean were given, together with morphia, but without any good result, for the patient died about a fortnight after the injury to the foot.

Art. 115.—*On Subcutaneous Injections.*

By Handfield Jones, M.D., F.R.S.

(*The Lancet*, December 17, 1870.)

At a meeting of the Clinical Society of London, on December 9th, a paper by Dr. Handfield Jones, entitled "A Query as to the Safety of Subcutaneous Injections," was read by the Secretary. Three cases were described in which the injection of small doses of morphia or opium ($\frac{1}{5}$ gr. of morphia in the first case, 5 minims of liquor opii in the second, and $\frac{5}{24}$ gr. of morphia in the third) had been followed by more or less serious fainting. Reference was made to published cases of serious symptoms following subcutaneous injections of morphia. He suggested the subject as one upon which the Clinical Society might usefully bring their experience to bear, especially with the view of discovering whether there were any objective signs of the state in which opium was not tolerated, and whether such a state might exist at one time and not at another. He thought it very desirable to ascertain whether morbid changes in the valves or muscular tissue of the heart increased the liability to the occurrence of syncope, or whether this was chiefly dependent, as chloroform-syncope seems to be, on some latent infirmity of the cardiac nervous centres.

Dr. Southey cited an instance in which death had followed the injection of a sixth of a grain of morphia, and made some remarks, the pith of which was that such injections were dangerous in cases of advanced heart-disease.

Dr. Charles Hunter, speaking from an experience of about 2000 cases annually, saw no risk in the system of hypodermic injection, whether there was evidence of heart-disease or not. Care should be used at the first injection, and the state of the kidneys should be looked to. It was possible that tetanus might result from puncturing a nerve, but he had never seen it.

Mr. Lee remarked that the quantity injected in Dr. Jones's cases appeared to be very large, and of course any solution injected into the veins would act more powerfully than when injected into the cellular

tissue. A safe plan was to withdraw the needle (after its introduction) about one eighth of an inch.

Mr. Carter said that the late Prof. von Graefe, who was accustomed to use these injections, took instantaneous action as the test of the solution entering the veins, and in such cases was accustomed to withdraw the piston before removing the needle.

Dr. Buckworth quoted a fatal case, and

Mr. Barwell made some remarks indicating that the result of hypodermic injection should not be judged by Dr. Jones's cases, inasmuch as there appeared to be in one or more of them some heart-complication.

Dr. Buzzard, from an extended experience of the system, thought that some importance should be attached to the pain of the operation, and that Glover's steel needle was perhaps the best kind of instrument. He related the case of a lady who had come indirectly under his care, who stated that she had frequently received 32 gr. of morphia in twenty-four hours by subcutaneous injection. He injected in this case 5 gr. and afterwards 15 gr., which produced only slight contraction of the pupils.

After some remarks by Dr. Hunter, indicating that any risk as to the introduction of air into the vein can always be obviated by filling the syringe with more of the solution than is actually required, and that the pain of the injection can be much modified by admixture of the solution with glycerine,

The President (Mr. Paget) recommended that a committee should be appointed "to consider the indications, if any, against subcutaneous injections."

Dr. Handfield Jones wished it to be distinctly understood that he had not brought forward his cases with the view of condemning the plan, but that one fatal case should be balanced with many of those that had been successful. He had no fear of coma, but thought that the plan was objectionable in cases of suspected heart-disease.

Art. 116.—*On the Physiological Action of Conia.*

By Dr. Verigo.

(*Deutsche Zeitschrift für Staatsarzneikunde*, xxviii. 2, 1870.)

"1. The principal and most powerful action of conia is upon the spinal cord, as this agent affects by preference the motor nerves.

"2. This action is manifested in frogs by paralytic phenomena, without signs of spasm, independently of the dose of the poison. In warm-blooded animals, on the other hand, large and poisonous doses almost constantly cause most painful spasm, whilst, after small and non-poisonous doses, only paralytic phenomena occur in the extremities.

"3. The paralytic phenomena proceed from the cord to the peripheral system of the sensory nerves, which is thus secondarily affected.

"4. The brain, to all appearance, is less affected by conia.

"5. The sensory nerves are scarcely at all affected through this organ.

"6. In small doses conia lessens the frequency of the respirations;

in large doses it may altogether paralyse these movements, this being due, not to the affection of the peripheral nerves, as Kölliker supposes, but to paralysis of the cord.

"7. The spasms produced in warm-blooded animals are a pretty sure sign that death will follow; they constitute a symptom of poisoning, and do not depend on paralysis of respiration.

"8. The blood seems to undergo no changes; at least the blood-globules do not lose their capacity of absorbing oxygen.

"9. No changes were observed in the heart and pulse.

"10. The temperature of the body is lowered in proportion to the intensity of the paresic phenomena. There is no constant action on the pupil.

"11. Conia acts more powerfully and with greater rapidity when it is injected directly into the veins; with less vigour when it is administered by the stomach or subcutaneously. In the two last instances its action is much the same.

"12. Conia has no influence upon the quantity and condition of the urine.

"13. When applied externally it causes but slight itching.

"14. The autopsies of animals poisoned by conia presented no constant characteristic phenomena."

Art. 117.—*On the Value of Opium in the Treatment of Rheumatism.*

By Robert Knaggs, M.R.C.S.

(*Australian Medical Gazette*, October, 1870.)

Mr. Knaggs having, more than forty years ago, suffered from a very painful attack of acute rheumatism, which was aggravated rather than relieved by bleeding, determined to try the effect of opium in this disease, as recommended by Dr. (now Sir Dominic) Corrigan. He has had abundant opportunities of testing the value of the remedy of late, as rheumatism has been very prevalent for many years in Victoria, and indeed in the Australian continent, owing to an unusual prevalence and long duration of wet and cold in that portion of the globe. In cases of rheumatism attacking chiefly the smaller joints, and approximating in character to gout, colchicum is especially useful, though even in such cases Mr. Knaggs finds it advantageous to add morphia for the relief of pain. But in rheumatism, involving the larger joints, attended with severe pain, copious sweating, high fever, loaded tongue, and strong and quick pulse, he has never found any benefit from the use of colchicum; and, on the other hand, he has found opium of the highest value, shortening the duration of the disease from a period of six or seven weeks to an average of ten or twelve days, preserving the constitutional powers, and preventing the cardiac complications. The dose of opium must be determined by the severity of the pain and the effects produced by the remedy, but Mr. Knaggs usually commences with a pill containing a

grain, or a grain and a half, every three or four hours, and if in twelve hours no decided improvement is observed, he raises the dose to two grains, and so on, until three or even four grains is the dose administered. The last-named dose is, however, very exceptional, and is seldom required.

Art. 118.—*On the Mode of Administering Opium in Delirium Tremens.*

(*Echo Médical et Pharmaceutique Belge*, No. 2, 1871.)

"It is stated that spontaneous recovery is the natural mode of termination of delirium tremens in drunkards. This may be true, but there is a great number of cases in which expectation would be dangerous, especially those in which the delirium is complicated by a fracture or some severe injury. Moreover, why not, when one is able, put an end to scenes of violence which are similar to those which render so dangerous the subjects of acute mania? Dupuytren, in order to arrest the nervous delirium of operation subjects, or of injured patients suspected of drinking habits, employed small enemata, containing six, eight or ten drops of laudanum. If the first injection be rejected, a second, and, if necessary, a third is used. If the patient be put to sleep, his condition promises well, and the treatment is discontinued for twenty-four hours. If the calm be an incomplete one, a fresh enema is given, and repeated every six hours.

"The reasons given by Dupuytren for preferring the rectum to the stomach for the administration of opium in these cases are the following:—The rectum absorbs and does not digest the medicinal agent, which therefore passes more directly and more surely to its destination; six drops of laudanum, administered in an injection, take more effect than a gramme of the same preparation given by the mouth. Besides, it is often a difficult matter to get the subject of delirium tremens to swallow.

"Dr. Bley adopts a contrary mode of practice. The medication to which this physician has recourse is the administration of the gummy extract of opium and sulphate of morphia. Immediately the diagnosis is determined, small quantities of either of these agents are administered every hour until the patient sleeps. This plan of treatment does not seem to have succeeded so well as the injections recommended by Dupuytren; large quantities of opium were often given without producing sleep."

Art. 119.—*Some further Additions to Therapeutics; Organic Bromides, Metachloral; with a Note on Sulphur Alcohol.**

By Benjamin W. Richardson, M.D., F.R.S.

(*The Lancet*, April 15.)

The author first described the method of research in therapeutics, which consists in following up modification of certain of organic com-

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* Abstract of a Paper read at a Meeting of the Medical Society of London, March 13.

pounds by modification of the elementary composition of the compound. He then introduced some new medicinal bromides—viz., bromide of quinine, bromide of morphia, and bromide of strychnine, together with combinations of the same. Bromides are best administered in the form of syrups, each drachm of the syrup containing—in the syrup of the bromide of quinine, 1 grain of the bromide of quinine; in the syrup of the bromide of morphia, $\frac{1}{8}$ of a grain of morphia; and in the syrup of the bromide of strychnine, $\frac{1}{32}$ of a grain of bromide of strychnine. Compounds of the syrups of the bromide of quinine and morphia, and of quinine, morphia, and strychnine were also useful. In each drachm of these, the same proportion of dose—viz., 1 grain of quinine, $\frac{1}{8}$ grain of morphia, and $\frac{1}{32}$ grain of strychnine—was maintained. Dr. Richardson had found the bromide of quinine of great service in syphilitic ulceration; he had obtained most valuable results from frequently repeated doses of syrup of bromide of quinine and morphia in cases of neuralgia, and in a case of diabetes the syrup of quinine, morphia, and strychnine had been signally successful. The bromide of quinine he believed the best preparation in cases of remittent or intermittent fever. Dr. Richardson next brought forward bromal hydrate. It was less soluble than chloral hydrate, and produced more convulsive action; and, on the whole, he did not think it could at all replace the last-named substance. He then passed on to anhydrous chloral, placing before the Society a specimen of pure anhydrous chloral, and by the addition of pure water it produced chloral hydrate. Chloral itself is a fluid caustic; it abstracts water rapidly, and might, he thought, be usefully employed as a caustic in some cases where soft fungous growth required to be removed. Chloral hydrate absorbed would be found to exert an after-sedative influence. A specimen of metachloral was then shown—an insoluble white substance made by exposing chloral hydrate to sulphuric acid. This substance is isomeric with chloral, and when treated with alkaline is resolved into chloroform and forminate of the alkali employed. Administered to inferior animals, it seemed to act as a gentle narcotic, being, probably, slowly decomposed in the body. It may yet prove of service in practical medicine. Lastly, Dr. Richardson exhibited a specimen of sulphur alcohol (C_2H_6S), in which sulphur replaces the oxygen of ordinary alcohol. He detailed a number of interesting facts bearing on the action of this agent, dwelling especially on the mental depression it produces even when taken in very minute quantities. The alcohol is exhaled by the breath as it passes from the bodies of animals, and communicates to the breath peculiar odours, like the odour met with in wasting diseases. From this fact the author drew a suggestion for a new line of research in diagnosis—viz., the detection of organic sulphur compounds, derived from the blood, in the air expired from the lungs by diseased persons. Sulphur compounds liberated in the alimentary canal seemed harmless—*i.e.*, were not absorbed; but it was now quite certain that when some of them are actually introduced into the circulation, even in minute quantities, and are diminishable by exhalation from the lungs, they produce muscular debility, feebleness of the heart, and mental depression. We may therefore infer that the formation of sulphur compounds within the circulation from diseases, might account for some examples of excessive temporary prostration for the cause of which we have as yet no satisfactory explanation.

Art. 120.—*On the Therapeutical Uses of Iodoform.*

By Styles Kennedy, M.D., of Delaware.

(*New York Medical Journal*, Nov., 1870.)

Dr. Kennedy states that iodoform, used therapeutically, is, alterative, nervine, sorbefacient, antiperiodic, and anæsthetic. As an alterative, it acts with more rapidity than other medicines of a like class, in doses of one, two, or three grains, three times a-day.

It is prompt and efficient in its action as a nervine tonic, and speedily subdues pain. Its sorbefacient properties are manifested rather slowly. It is a powerful antiperiodic in doses of five to seven grains. It is useful as a local anæsthetic. It is rapidly absorbed into the blood, but accumulating effects have not been observed. It is destitute of any local irritant action, in which it differs from other preparations of iodine. Dr. Kennedy thinks that it may be administered with reasonable expectation of success in the following cases—viz., neuralgia of every kind, chronic rheumatism, scrofula, syphilis, chronic skin diseases, and in many other cases where a powerful alterative agent is required. This quality is greatly enhanced, in Dr. Kennedy's opinion, by the addition of pure iron (*ferrum redactum*, B.P.)

Art. 121.—*On the Biological Rôle of Chloride of Sodium.*

By M. Bergeret.

(*Echo Médical et Pharmaceutique Belge*, No. 6, 1870.)

"Few persons can conceive the profound modifications which the constitution of the body may undergo after an unusual supply of common salt. In fact, this substance plays an extremely important part in the economy; dissolved in the fluid of the humours, it dissolves the organic substances which they contain. Without the presence of salt in the blood-plasma fibrin, albumen, musculin, ostein, &c., become solid, and the blood-corpuscles are dissolved. The blood-corpuscles are dissolved in a solution of pure albumen and in pure water, whilst they retain their proper form, and remain unchanged in an albuminous fluid containing one per cent. of common salt.

"If chloride of sodium be removed from the food of man, symptoms of chlorosis make their appearance; the subject becomes pale, languid, and œdematous. On the other hand, when added to the food in small quantities, salt excites the appetite and determines a more abundant secretion of the saliva and gastric juice, and thus facilitates the digestive dissolution of the aliment, especially the albuminoids. It increases the proportion of blood-corpuscles, and diminishes the quantity of water. An excess of salt provokes renal secretion, and the expulsion from those organs and the skin and lungs of the nitrogenous products of histological waste. But if these effects be continued for some time common salt becomes injurious. In fact, when introduced into the stomach in large quantities it passes into the blood and remains there for some time. The

saline blood absorbs more oxygen, and this stimulates the physico-chemical action of histological nutrition. This increased trophic activity consumes a considerable amount of assimilable material. The functions of the stomach and intestines are necessarily increased in activity. But it soon happens that these organs, by elaborating without cessation reparative material, cannot suffice for nutritive activity.

"From eight to ten grammes of common salt are daily expelled by the kidneys, the skin, the intestine, the nose and mouth."

Art. 122.—*On Calcareous Salts and the Lacto-phosphate of Lime in the Treatment of certain Diseases of the Osseous System.*

(*Echo Médical et Pharmaceutique Belge*, No. 6, 1870.)

For a long time past the calcareous salts have been employed in medicine. The numerous experiments of Chossat who established in a vigorous manner the fact that certain animals did not find in their ordinary food sufficient mineral substance for the reparation of losses of osseous structure, have increased considerably the uses of these agents. It is evident, in fact, that in order for the physiological equilibrium to be maintained, alimentation must be completed by the addition of calcareous material to keep up the solidity of the skeleton, and to prevent the bones from becoming very fragile.

In cases of rickets and osteomalacia, Bouchut prescribed phosphate of lime in quantities of from two to five grammes in the day. Piorry gave this agent to children in doses varying from five to ten grammes, it having been reduced to an impalpable powder and mixed with a soft substance as cream or marmalade. In many cases this physician served the phosphate of lime with iodide of potassium. Guersant and many others prescribe eight to ten small pastilles to be taken every day, each containing three centigrammes of lactate of iron and five centigrammes of phosphate of lime.

In their observations on men and the lower animals, MM. Gosselin and A. Milne-Edwards made out that in cases of fracture the necessary time for consolidation was notably shortened after the administration of phosphate of lime with the food.

It results, however, from experiments recently undertaken by M. Dusart and Dr. Blache that the phosphate of lime hitherto used in therapeutics, is nearly insoluble in the gastric juice, and consequently unfitted except to a very slight degree for becoming assimilated. In obtaining artificially an analogous substance to the product of the action of gastric juice on the phosphate of lime, we have at disposal an agent whose power is much more considerable, and one which presents to therapeutics the best guarantees for its absorption.

This new product, obtained by the action of lactic acid upon phosphate of lime, is called by MM. Dusart and Blache lacto-phosphate of lime, rather for the sake of recalling its composition than for representing a definite chemical body, which does not last. It is a salt per-

fectly soluble in water and all gastric fluids, and can consequently be readily administered.

With this salt MM. Blache and Dusart have made experiments, which justify them in concluding that when administered in cases of fracture in animals it is readily absorbed and assimilated, and shortens considerably the duration of the time necessary for consolidation. These experiments were made exclusively upon the guinea-pig. They were enabled to make out that the increase in weight of the bones of this animal, after being subject to a régime of the lacto-phosphate of lime, exceeded by more than 33 per cent. the weight of the bones of a similar animal subjected to an ordinary régime. The consolidation seemed to follow a proportionate course. After this success they no longer hesitated to apply their experiments to the human body.

The results which were then obtained were even more satisfactory. In most instances the consolidation of fractures was remarkable for its great rapidity. They report in their article a great number of observations, all of which go to favour the use of the lacto-phosphate of lime. In one case, a young man, both bones of whose leg had been fractured a short distance above the malleoli, was able to walk on the twenty-second day after having taken daily three grammes of phosphate of lime dissolved in simple syrup.

Cases of rickets, of dyspepsia, characterized by the failure of acid secretion, and also cases of general debility, seem to be adapted for the employment of the lacto-phosphate of lime, given in doses proportionate to the age of the patient and the importance of the affection.

When it is considered how readily the organism of an animal becomes deprived of phosphate of lime under the influence of an insufficient or imperfect alimentation, it will be admitted that in a great number of affections the effects of mineral inanition may add their action to that of the affection itself, and continue during the convalescence, the duration of which is thus increased. "Inanition, or rather, inanitiation," says Jourdan and also Bérard, "is a cause of death which is developed in silence, with every malady in which alimentation is abnormal. To supply nourishment is to take nature into working partnership." As it has been rigorously proved that the lacto-phosphate of lime may produce so great a result, let this agent take the rank which it deserves in therapeutics. It may be administered either in pastilles or in syrup. It is generally employed in the latter form.

Art. 123.—*On the Chloride of Ammonium as a specific Therapeutic Agent in the Treatment of Hepatitis and Abscess of the Liver.*

By Dr. Stewart, of the Royal British Fusiliers.

(*British Burma Press,* Rangoon, 1870; and *British and Foreign Medico-Chirurgical Review,* April.)

Dr. Stewart observes that although chloride of ammonium has been for some time employed and valued by the Germans and the French in the

treatment of diseases in which mercury and other alterative deobstruents are indicated, yet he has never found the salt particularly mentioned in relation to the treatment of hepatitis and abscess of the liver. After numerous and careful trials, he now recommends the drug almost as a specific in such cases, and he states, moreover, that he has found it very serviceable in all cases of hepatic disease whatever, whether depending on organic disease or on functional derangement. The proper period for the exhibition of the remedy is after the abatement of acute symptoms, and when diaphoresis has been freely established, and it should then be administered in doses of twenty grains night and morning. About fifteen minutes after the chloride has been taken a sensation of warmth is experienced at the epigastrium, which gradually spreads over the whole surface of the skin. The patient at the same time says that he feels "light-headed." In cases of hepatitis the pain is either removed to a point higher up than the liver, or is entirely relieved. Dr. Stewart gives a history of a number of cases, and shows that during a nine months' trial of the salt, out of a total of thirty-one, not one was followed by a fatal result. He also highly recommends the chloride in cases of chronic dysentery, and advises the continuance of its administration for some time after the disappearance of acute symptoms.

Art. 124.—*On the Use of Oxygen in Dyspnœa.*

By Henry H. Smith, M.D., New York.

(*New York Medical Gazette*, January 14.)

In answer to the question why dyspnœa is sometimes relieved by oxygen, while in other cases, in which the obstruction to respiration appears no greater, the same relief is not obtained, Dr. Smith replies that in ordinary respiration the blood is very nearly saturated with oxygen, and that inhaling an atmosphere ever so highly charged with it will not add very greatly to the quantity absorbed. If there be a partial obstruction of the air-passages, leaving the air-cells intact, then, by adding to the inspired air sufficient oxygen to supply the deficiency of that element, the normal respiratory conditions are very nearly restored. Thus, if the volume of air entering the lungs is reduced to one-half the normal amount, and the per-centage of oxygen which that half contains be doubled, then the normal quantity of oxygen comes into contact with the normal quantity of blood. But if, instead of a partial obstruction of the tubes, one-half of the air-cells is blocked up by exudation, a different result ensues, for although the patient may be made to breathe the normal quantity of oxygen, that element acts only on half the amount of blood, and as the absorbing power of the blood is limited, the aëration of that fluid remains imperfect. Dr. Smith adduces two cases in illustration of his views, in both of which oxygen was administered, but in the first case the result was favourable, and in the second it was fatal.

The first was a case of capillary bronchitis, in which, of course, the tubes were partially obstructed by accumulated mucus, but allowed a certain amount of air to pass; the second was one of pneumonia, the

air-cells of one lung being entirely filled by exudation. The air-tubes in this latter case were indeed unobstructed, but the little blood that circulated through the lung was shut off from all contact with the atmosphere, and the system failed to receive sufficient oxygen for the support of life.

Art. 125.—*On the Stimulating Effect of Digitalis in Heart Disease.*

By B. D. Taylor, M.D., of Belle Vue Hospital, New York.

(*New York Medical Journal*, November, 1870.)

Dr. Taylor has published a case to illustrate the value of digitalis as a prompt and efficient remedy when given freely in cases of sudden cyanosis and syncope resulting from extensive heart disease. The tonic action of the drug when given for a considerable time in heart disease, is well known, but the present case shows its effect in restoring power and regularity almost instantaneous to a feeble heart. The patient was suffering under extensive disease of the aortic and mitral valves, and recovery was not expected, but still the result seems to show that even under such circumstances life may be prolonged, and existence be made comparatively comfortable, by using digitalis as a combined stimulant and tonic to the heart's action. The woman had had an attack of articular rheumatism and consecutive heart disease, and when she was admitted into the Belle Vue Hospital, she was suffering also from congestion of the lungs. One night Dr. Taylor was called to see her, when she was gasping for breath, with feeble pulse, purple face, and irregular and confused action of the heart. Alcoholic stimulants were administered without relief, but on the tincture of digitalis being given in the dose of 30 minims, the pulse increased, the action of the heart became regular, and the dyspnœa was relieved. The digitalis was continued in doses of 10 minims every two hours, but with iron and quinine in addition. Another similar attack was relieved by two doses of the tincture, consisting of 30 minims each, and in a subsequent seizure of a still more severe character, the use of digitalis seemed to be beneficial, but the patient eventually sank.

Art. 126.—*Clinical Records of the Therapeutic Value of Iodine in the Treatment of Syphilis.*

From the Practice of Mr. Berkeley Hill, at the Male Lock Hospital.

(*The Lancet*, March 4.)

According to Mr. Berkeley Hill, it is of first importance, in considering the power of iodine to subdue syphilis, to determine the stage during which the drug is most servicable, and what are the forms in which the disease betrays itself during that stage.

Iodine is, he says, unquestionably of high value in all the skin affections characterized by prominent or deeply-set tubercles in the skin, and those marked by ulceration rather than by desquamation. In the visceral forms of syphilis also, in periosteal and osteal affections, and in muscular tumours, the extreme value of iodine is beyond doubt. This indisputable effect of iodine in certain forms, and the prejudice against mercury, have led many practitioners to employ iodine for all the phenomena of syphilis. This Mr. Hill believes to be a mistake, for two reasons. The first: that he has never been able to trace any result from the exhibition of iodine either for the initial sore or for the roseolous and papulo-scaly eruptions on the skin. Undoubtedly, these symptoms may disappear while iodine is being taken; but it has not yet been shown that they do so with greater rapidity than when the patient is subjected to no specific treatment whatever. The second: that he is strongly convinced that the earlier the disease is controlled, the more likely is the patient to escape a tedious course and the dangerous sequelæ of syphilis. Consequently, he regards the iodine treatment of early syphilis as a loss of valuable time, and as an exposure of the patient to the chance of ultimate, and possibly avoidable, suffering. The converse is, however, unfortunately not always true: the best and most careful treatment of syphills at the outset is not a perfect safeguard against a severe course of the malady. Nevertheless, every year increases his confidence in the protective value of a judicious early treatment.

Mr. Hill believes that iodine is generally given with advantage to feeble persons, whose eruption is pustular rather than bullar; but even here he thinks it possible that the stimulant effect of iodine is the chief benefit derived from the drug, and mercury should follow the iodine as soon as the restored vigour of the patient will allow; and if, in such cases, iodine alone is relied on, the disease commonly recurs in the same or some other form. Iodine, therefore, he considers useless in all initial sores, and in early scaling or muscular eruptions, but often serviceable as a preliminary to mercurial treatment for debilitated persons.

But even when unquestionably appropriate, it should always be followed by mercury. When the patient is apparently restored to health, he should at once begin a course of small doses of mercury, given continuously, or with occasional short intervals of iodine, and lasting four or even six months. The dose of mercury need not be sufficient to produce any soreness of the gums; slight sponginess is all that is needed. A fifth or a fourth of a grain of perchloride in the twenty-four hours, given with cinchona solution and hydrochloric acid, is very effectual. Ammonia should not be used in any form with the mercury, for it has been shown by Mr. Martindale, teacher of practical pharmacy and dispenser in University College Hospital, that the perchloride, when mixed with ammoniacal salts, is gradually but completely precipitated from solution as ammonio-chloride; hence, though this precipitate would be dissolved in the stomach and produce its proper effect, the chance of its remaining as sediment at the bottom of the bottle renders ammoniacal solutions of mercury uncertain and unfit for internal use. Simple distilled water dissolves the perchloride quite sufficiently for this purpose.

Iodine is also useful, when given after a mercurial course, to prolong the influence of mercury which has been given early in the disease. In such cases it will frequently control even scaly eruptions, which otherwise would be slow to subside. This effect has been attributed to the fact of the mercury, which has been deposited in the tissues, being redissolved into the circulating fluids.

The modes of giving iodine vary much with the individual. Small doses of two or three grains, three or four times daily, should be combined with some aromatic or astringent tincture or infusion to prevent the irritation of the alimentary canal that sometimes occurs. But these small doses soon lose their effect, and must be gradually increased by about one-third at successive steps. This rule holds good also for large doses. If a patient ceases to derive benefit from twenty grains, the increase should at once be made to thirty, for a smaller addition to the dose seldom has any effect. The augmentation should be continued until the disease has disappeared, or until symptoms of iodism show that no more can be borne. In the latter event the use of iodide should at once be discontinued for a short time, and subsequently resumed in some other form. For example, if iodide of potassium has been previously used, the sodic or ammoniac iodide should be tried, and that in half the former dose. Sometimes it happens, after taking long courses of iodide of potassium, that the stomach grows intolerant of the alkali, the tongue becomes white and furred, the stomach loathes food, and the syphilitic symptoms cease to show any abatement. This condition is often not comprehended by practitioners, who abandon the iodide (or are themselves abandoned by the patient), and take to mercury or some other drug, which in such a state of the alimentary canal can command no success. A dose of blue-pill and colocynth, with a few days' treatment with nitro-hydrochloric acid, and complete abstinence from alcoholic drink, will, however, speedily restore the appetite, clear the tongue, and render the patient again able to take the iodide. Mr. Hill has known a disordered stomach to make iodine inoperative, even when that drug had been taken for only a short time. In one case he was applied to by a medical man for advice about a very painful node on which iodide of potassium produced no effect. He found that the stomach was considerably deranged, and prescribed some simple remedy for its condition before making a further attempt with the iodide. Then, on the iodide being resumed, the patient was immediately relieved of the pain and swelling, which it had before failed to influence. Again, the use of iodine can sometimes be prolonged, after the system has tired of it, if combined with sarsaparilla, of which the most useful forms are, in Mr. Hill's opinion, the liquid extracts of Bell or Squire. One, two, or even three drachms should be given in half a pint of water, with the requisite dose of iodide, about midway between, or two hours after meals. Ammonia very greatly assists the effect of iodide of potash in debilitated patients. It is a more valuable adjunct than the salts of iron even. Four or five grains of the sesquicarbonate may be added to the draught of iodide. Bromide of ammonium added to the iodide has apparently also a good effect in the nervous affections of syphilis. With regard to the form of iodide to be employed, the salts of potassium, sodium, and ammonium alone can be trusted to procure marked effects

of iodine; but which of these is preferable Mr. Hill hesitates to decide. The taste of each of them is, perhaps, equally disagreeable; but the sodic and ammoniac forms, having smaller equivalents of alkali, furnish a larger amount of iodine, weight for weight, than the potassic. Empirically, he has not been able to detect any particular advantage in any one of these salts over the others. Either of them, if pushed too far, will produce iodism; and the same patient will at one time bear one better than another. He has not been able to detect any difference between the effects of these three salts, except that each is useful for ringing a change in cases where the use of iodine must be long continued.

The toxicological effects of iodine are various. That most commonly complained of is irritation of acne pustules in persons subject to that complaint. The appearance of this symptom always indicates a short course of acids; so do the dry, red tongue so well described by Mr. L. Parker, coryza, and the other decided signs of iodism. Flat papules and flat pustules of the skin are so rarely produced that they should never be waited for as a sign that iodine has been pushed too far. Nevertheless, Mr. Hill has seen them produced on two occasions when very few grains of iodide had been taken. The subjects belonged to a rare class, which appears to be constitutionally unable to take iodine in any form.

ART. 127.—*Clinical Records of the Therapeutic Value of Iodine in the Treatment of Syphilitic Nervous Affections.*

From the Practice of Dr. BUZZARD, at the National Hospital for the Paralysed and Epileptic.

(*The Lancet*, March 11.)

Affections of the nervous system, due to syphilis, are always, according to Dr. Buzzard's experience, either connected with its tertiary stage or ascribable to hereditary taint. And when the patient's history is investigated, it is, in the first of these cases, more common, on the whole, to find that no secondary symptoms were observed than that these have been well marked. Not only is this the case with hospital patients, in whom an error of observation is of course probable, but also with persons occupying a superior position in life, who would have been highly sensitive to the occurrence of skin eruption, iritis, loss of hair or sore-throat, if they had been affected by such symptoms. As regards the previous administration of mercury for the primary affection, Dr. Buzzard finds that this, more often than not, has been carried to the point of salivation. The nervous affections belonging to the tertiary stage are very numerous, and their diagnosis is frequently very obscure, but for our present purpose they may be briefly enumerated as follows:—Affections of the coverings of the brain, with or without lesion of the cerebral substance, and giving rise to epileptiform attacks, hemicrania, nausea, vertigo, or hemiplegia; optic neuritis; general paralysis and dementia; neuralgia; paraplegia; paralysis of one or more of the

cranial nerves or of spinal nerves; progressive locomotor ataxy. It is not common to meet with well-marked tertiary symptoms affecting remote structures in cases of nervous affection due to syphilis. Occasionally, no doubt, patches of psoriasis may be observed, or serpiginous ulcers present themselves and aid the diagnosis, or a cellular node is to be found on one of the lower extremities, the cranium, or the sternum; but as a general rule such evidences are wanting. And so also in regard to the general aspect of the patient, every variety may exist, from the appearance of good health to a state of extreme cachectic debility. It is perhaps in the latter class of cases that iodine treatment is most efficacious. In all cases there is a great tendency to relapse.

In all cases of nervous affection due to syphilis, Dr. Buzzard is in the habit of employing the iodide of potassium, at least in the commencement of the treatment. He has found no reason to prefer the salt of any other base; and believes that any good to be obtained by the use of iodine may be most conveniently arrived at by the employment of this salt. Its effects, however, are subject to remarkable varieties. Acting like a charm in a number of cases, it is very disappointing in others which, nevertheless, present good grounds for the belief that they are of a syphilitic character. The duration of the symptoms before specific treatment is commenced is probably the most important element in this variation of results. Where the patient is seen early, and the diagnosis of syphilis rapidly acted upon, it would seem that the neoplasm is removed from the connective tissue in which it is deposited ere there has been time for the nerve-structure proper to have become seriously damaged. However severe may be the symptoms—complete paralysis of one or more cranial nerves, the occurrence of violent epileptiform seizures, or more or less complete paraplegia,—if these depend, as they frequently do in the earliest period, upon simple pressure exerted by the effused gummatous products, the absorption of these, under the influence of iodide of potassium, sweeps away the grave symptoms with remarkable celerity. But where, owing very often to want of recognition of the cause, valuable time has been lost, softening of nerve-structure has taken place from the pressure of gummata, or sometimes from inflammation and consequent obliteration of arteries. Under such circumstances the use of iodide is but limited. A certain amount of improvement will take place, and then the symptoms will remain stationary in spite of the continued employment of the drug. But even in such instances the continued use of the iodide will often be of great benefit; for it appears able to prevent the extension of disease to other and possibly more important parts of the encephalon or spinal cord.

Various as are the lesions of the nervous system resulting from syphilis—pain, convulsion, paralysis of motion or of sensation, and muscular atrophy—there is not, Dr. Buzzard thinks, sufficient evidence as yet to show that one of these symptoms is *primâ facie* more likely to be beneficially influenced by iodide than another. In all the causative disease has to be treated, not the symptoms. Let there be a reasonable probability that any of these phenomena owe their origin to the presence of a syphilitic taint, and, if time has not elapsed for irreparable damage to be sustained, the use of the iodide is indicated, and will certainly be of the greatest service. And it seems likely that the explana-

tion of this universal utility depends upon the fact that, at least in the first instance, the tissue affected in these various conditions is the same. It is the connective tissue in which the pathological changes occur, and wherever this may be situated, the disease in it will be amenable to the same treatment. Early diagnosis is everything in these affections. A patient may present himself suffering from very slight seizures which he calls "faints"—indescribable sensations which are scarcely, if at all, noticed by an observer. These are often of syphilitic origin; and, if their cause is mistaken, and a routine treatment (of bromide of potassium, for example) be adopted, they will rapidly increase in severity till violent epileptiform seizures take place, and possibly a hemiplegic condition supervenes. But a few grains of iodide of potassium administered daily will clear these "faints" away as by a charm, and, judiciously continued, will obviate the tendency to further mischief. The same thing occurs with the numerous cases of paralysis of one or more cranial nerves, that are so frequently of syphilitic origin.

As regards the mode of administration, Dr. Buzzard is ordinarily accustomed to commence with a dose of ten grains of the iodide, taken in water three times daily, and increased, if it appear necessary, at intervals of a few days, to fifteen, twenty, twenty-five, thirty, forty, or sixty grains. Upon the symptoms disappearing, he does not altogether suspend the use of the drug, but continues it in a moderate dose for weeks, sometimes months, and occasionally for years, withholding it now and then for a few weeks, and administering mineral acids, or iron, if anæmic symptoms be present. It is worth remarking that intelligent patients who have taken much iodide learn to judge from their sensations that a return to it is advisable, when they have discontinued it for some time. There are, doubtless, exceptional cases in which the iodide of potassium causes distress; but as a general rule it may be taken, with occasional intermissions, for months or even for years without injury or discomfort. Dr. Buzzard is not disposed to think that the addition of mercury is of service in tertiary syphilis affecting the nervous system; but he considers it useful in the case of children suffering from hereditary taint in whom nervous phenomena are present. His experience does not show him that any advantage is to be gained, as a general rule, by the addition of ammonia or of bitter tinctures to the iodide, which he prefers administering alone in a little water midway between meals. In certain cases, however, of continued epileptiform seizures, having a syphilitic origin, he finds that the combination of the bromide of potassium, in twenty- or thirty-grain doses, with five grains of iodide, two or three times a day, is attended with advantage.

Art. 128.—*Laminaria Tents.*

By J. C. Nott, M.D., New York.

(*American Journal of Obstetrics and Medical Record*, February 1.)

Dr. Nott presents the following conclusions in regard to the use of laminaria tents:—

1st. Where moderate dilatation is required, the laminaria is preferable to the sponge tents.

2nd. If placed in warm water, just before introduction, for a few minutes, they become flexible, coated with mucilage, are easily curved to suit the cervical canal, and may be inserted with the utmost facility.

3rd. From their smoothness and softness they are removed without force, and produce no abrasion or irritation.

4th. They may be medicated with morphia, iodine, or anything *soluble in water*, but do not absorb alcoholic solutions or glycerine. After being so charged they may be dried and kept for use an indefinite time.

5th. They do not become putrid, and therefore poisonous, as do sponge tents, and may therefore be retained twenty-four hours or more with impunity.

6th. The black, ovoid laminaria, from the Bay of Fundy, is much preferable to the other varieties yet brought to our markets, and free from the objections he has seen made to laminaria by some writers.

7th. The laminaria will be found of great benefit in obstructive dysmenorrhœa, if introduced a few days before the menstrual period, and also in cases of uterine catarrh connected with contracted cervix; they prepare the way well, too, for all intra-uterine medication. In either case, if softened in hot water before introduction, they rarely produce any pain or irritation.

8th. He thinks it better to insert several small tents than one, as the small ones expand more rapidly than the large ones.

Art. 129.—*On Podophyllin.*

(*Medical Times and Gazette*, December 3, 1870.)

Podophyllin, or the podophylli resinia—a new purgative introduced into the British Pharmacopœia—comes to us from the United States, where it has for many years been largely used. It is obtained, by the action of rectified spirit, from the dried rhizoma of the American may-apple, or mandrake (the *Podophyllum Peltatum*), has a well-established repute as a purgative, and, from the character of the motions produced by it, has been called "vegetable mercury." When the proper dose for each patient has been found, it acts very efficiently, but different constitutions require different doses; a grain dose is rarely required, in many cases a sixth of a grain acts gently and efficiently, while others may require a dose of half a grain, though in not a few such a quantity would act violently. Authorities are not in accord as to its action. By many it is considered to be a powerful cholagogue, largely increasing the quantity of bile poured into the intestines; but while some assert that it excites increased secretion of bile, others say that its action as a cholagogue is only due to its stimulating the gall-bladder to contract and expel its contents into the bowels. And again, others deny that it increases either the secretion or the excretion of bile. Dr. Anstie, who experimented with it on dogs and rats, came to the conclusion that it has no special action on the liver; and the committee of the British Medical Association appointed to investigate the action of podophyllin

on the liver reported that doses varying from two to eight grains, when given to dogs, diminished the solid constituents of the bile, whether they produced purgation or not; and that doses which produced purgation lessened both the fluid and the solid constituents.* It is difficult, however, not to believe the strong evidence given in its favour as a useful and powerful cholagogue in man—in conditions of disorder or disease, at any rate. American physicians of scientific repute hold it in great esteem as a cholagogue and general eliminative. Dr. Gardner says†—"I know no other substance which so certainly produced bilious evacuations when the liver is full of bile. . . . . Whenever I have deemed it desirable to evacuate or stimulate the liver, as in bronchitis, fever, headache, etc., I have used this medicine with highly satisfactory results." And he specially speaks of its value in jaundice, in the torpid liver of those who have resided in tropical climates, in gout, and "in the constipation which often besets patients in phthisis—as I think, most frequently from fatty liver." Dr. Ramskill,‡ after an extensive employment of it, reports—"As a cholagogue, it stands pre-eminent and alone—far before mercury or any other drug that I have ever administered. . . . . In very small doses it will procure an abundant flow of bile, and often induce its discharge by vomiting, before, or even sometimes without, any purging." Dr. Sydney Ringer§ observes that "the experience of those who have used this drug largely is strongly in favour of its cholagogue properties in some diseases," and his own experience leads him to a similar conclusion. He recommends it especially in the obstinate constipation which often follows an attack of diarrhœa, in hand-fed infants, when "the motions are very hard, crumble when broken, and of a clay colour, often mottled with green." In this state he knows of nothing "so effectual in bringing back the proper yellow colour to the motions, with also a proper consistence, as podophyllin;" the motions become natural, the flatulent distension of the belly ceases, and the child is quieter and its health improved. He uses an alcoholic solution of the resin, containing one grain to the drachm of alcohol, and of this one or two drops are given on a lump of sugar two or three times a day. Dr. Garrod‖ thinks that it produces abundant bilious evacuations, rather by emptying the gall-bladder than by exciting the secretion of bile, for he has observed that, "when many evacuations are caused by its action, the latter ones are of a mucous or serous character, rather than bilious." Dr. Andrew Clarke¶ values it chiefly as a remedy for constipation. In his experience, he says, there is no single remedy for constipation so free from the objections attaching to ordinary laxatives as podophyllin. "In the great majority of cases of simple constipation, it fulfils the conditions required of a safe and effectual remedy, by operating slowly, easily, and after the manner of nature."

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* *British Medical Journal*, vol. i. p. 419, 1869. *Practitioner*, June, 1869, p. 355.

† *Lancet*, vol. i. pp. 209 and 286, 1862. ‡ *Lancet, loc. cit.*

§ *Handbook of Therapeutics*, 1869, p. 304.

‖ *The Essentials of Materia Medica and Therapeutics*, 3rd edition, 1868, p. 163.

¶ *Medical Times and Gazette*, vol. i. p. 10, 1862.

He has found, also, that when given for this purpose the dose does not require to be increased after a time, but may, on the contrary, be diminished without affecting the success of its operation. We have ourselves, also, found it of great and decided value, used for this purpose, and as a purgative; but further evidence in its favour, besides that noted above, would be superfluous. It may, we think, be considered as having acquired a well-established reputation. In America* it has been found, in small repeated doses, of great value as a deobstruent in scrofula, rheumatism, syphilis, and other chronic diseases; and in England, Dr. Marston,† of the Royal Artillery, and Dr. R. S. Sisson, have employed it in secondary syphilis as a substitute for mercury, with marked success.

Its action as a purgative is rather uncertain, and is apt to be attended with griping, to prevent which it may be combined with small doses of henbane, belladonna, or cannabis indica; and its action is rendered more certain by giving compound colocynth or rhubarb pill, soap, or ipecacuanha with it.

Art. 130.—*On Lithia.*

(*Medical Times and Gazette*, December 3.)

Lithia and its salts were introduced into the British Pharmacopœia of 1864. More than thirty years ago Mr. Ure and some other authorities called attention to the remarkable solvent powers which the carbonate of lithia possessed over uric acid calculi—powers which much exceed those possessed by the other alkaline carbonates, and Mr. Ure suggested the injection of solutions of the carbonate of lithia into the bladder, with the object of dissolving calculi formed wholly or in part of uric acid. But it is to Dr. Garrod that we owe the introduction of the lithia salts into medical practice. Extending the experiments of Mr. Ure, &c., he found that the carbonate of lithia could completely remove gouty deposits of urate of soda from cartilages incrusted by them, while carbonate of potash acted less strongly on them, and carbonate of soda left them unaltered. This encouraged them to make trial of the lithia salts clinically, and with highly satisfactory results. He finds them of great value for keeping uric acid in solution during its passage through the urinary organs, and for preventing its deposition in the structures of the body; it seems, also, that they may be of service in removing gouty concretions when formed. The carbonate is a much more powerful diuretic than the salts of potash or soda, and may be given with great advantage, as a prophylactic, in chronic gout, calculus, &c. Its dose is from three to six grains, and is best given in a state of free dilution. The value of the lithia salts, especially the carbonate, has been widely recognised. The lithia springs of Baden Baden‡ have gained a considerable reputation, and Prof. Roscoe has

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* *Half-Yearly Abstract*, vol. xxxv. p. 248, 1862.

† *Lancet*, January, 1864.

‡ Dr. Althaus "On the Lithia Springs of Baden Baden," *Medical Times and Gazette*, vol. ii., 1861.

found lithium in the thermal waters of Bath. Dr. Garrod has stated that he has known a few, but a very few instances "in which the long-continued use of the drug has appeared to cause symptoms referable to the nervous system, as shaking or trembling of one hand, which has disappeared on the omission of the remedy."*

Art. 131.—*A Case of Ascites Successfully Treated by Oil of Copaiba.*

Under the care of Dr. Sieveking, at St. Mary's Hospital.

(*The Lancet*, December 17, 1870.)

William H——, aged forty-five, a coachman, was admitted on the 12th of August. He stated that nine weeks previously he had had an attack of diarrhœa, which was soon checked by medicine; but a week later he felt pain in the abdomen, especially over the region of the spleen, and shortly afterwards noticed that his abdomen began to enlarge. The pain and swelling gradually increased until admission. He was then in intense pain; the abdomen was greatly distended, shining, and dull on percussion; the superficial veins congested; the skin hot and dry; the tongue furred; the pulse 94; the urine scanty, never more than 15 oz. being passed a day, high-coloured, but not albuminous. Mercurials, salines with iodide of potassium, iron, and an occasional opiate, together with the application of leeches, poultices, and blisters, were tried for a considerable time; and although the treatment relieved the pain, it did not diminish the effusion, which, on the contrary, seemed to increase, the abdomen measuring 39 in. round the umbilicus.

On the 12th of October the patient was much worse, the lungs becoming implicated, as indicated by pain, dyspnœa, cough, and dulness on percussion. He was ordered to take ten minims each of oil of copaiba and liquor potassæ, in an ounce of camphor mixture, three times a day.

14th.—Dyspnœa less, abdomen softer, and urine more abundant.

16th.—No dyspnœa. Measurement at umbilicus 37 in. Amount of urine passed during the last twenty-four hours, 30 ounces. To take twenty, instead of ten, minims of oil of copaiba in each dose of the mixture.

18th.—Has been obliged to leave off the mixture, owing to its making him sick. Feels rather fuller in the abdomen.

20th.—Resumed the copaiba mixture.

21st.—Much better; measures round umbilicus, 35½ in. Amount of urine passed during the twenty-four hours, 50 oz.

25th.—Measures at umbilicus, 34 in. Urine passed yesterday, 32 ounces.

From that time he continued to improve, the thoracic symptoms disappearing, and the size of the abdomen decreasing.

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* *Essentials of Materia Medica*, 3rd edit., p. 105, 1868.

On November 3rd he measured 33 inches, and on the 11th, 32 inches, and was ordered to leave off the copaiba mixture, and to take an ounce of iron-and-quinine mixture twice a day.

On November the 18th he only suffered from weakness, and on the 24th he was discharged quite well.

Art. 132.—*Glycerine Extracts of Pepsine.*

(*Nature;* and *The Pharmaceutical Journal,* January 7.)

Mr. M. Foster reports in *Nature* the result of a repetition of some experiments, published a short time ago by Von Willich, in "Pflüger's Archiv," upon the isolation of pepsine, and other so-called ferments, by means of concentrated glycerine. After washing the mucous membrane of a pig's stomach, it was freed as much as possible from water, minced, bruised, and covered with pure glycerine. Having stood twenty-four hours, a few drops of the glycerine, diluted with acidulated water, digested fibrin rapidly. This process was repeated four times, each resulting extract manifesting strong peptic powers. Treated after filtration, with an excess of alcohol, these extracts gave a slight precipitate, which, separated by filtration and re-dissolved in acidulated water, was strongly peptic. Salivary gland and pancreas yielded to glycerine a starch-converting ferment, and a "laden" pancreas gave a ferment-digesting fibrin in an alkaline medium. Ungerminated barley gave up a non-proteid diastase; almonds, a ferment acting on amygdalin. The author thinks that glycerine offers advantages in the investigation of this subject not presented by any other medium, as the extracts remained unchanged for a long time, while the tissues, being little altered after exhaustion of their ferment by repeated treatment with glycerine, may be examined under conditions hitherto impossible. He claims that these results are also of practical value in the preparation of the so-called pepsine for medical purposes; as by glycerine a pure palatable peptic liquid, apparently keeping any length of time and certain in its action, can easily be obtained.

Art. 133.—*The Preservation of Pepsine.*

By Lionel Beale, M.B., F.R.S.

(*Medical Press and Circular,* March 1.)

Dr. Beale writes to *Nature* to the effect that the means hitherto adopted for preparing pepsine for medical purposes are clumsy and inefficient. Dr. Beale, however, claims one exception, a process described by himself in 1858. It simply consists in quickly drying the mucus expressed from the pig's stomach glands upon glass plates. The dried mucus is then powdered and kept in stoppered bottles. It retains its properties for years. Eight-tenths of a grain will dissolve one hundred

grains of coagulated white of egg. From this powder is easily prepared, by solution in distilled water, a perfectly clear and colourless digestive fluid, of great activity, which can be readily filtered.

Art. 134.—*The Treatment of Acute Tonsillitis with Belladonna.*

Under the care of Dr. Handfield Jones, at St. Mary's Hospital.

(*The Lancet*, January 7.)

Although many of the standard works on medicine and therapeutics omit to make any mention of the value of full doses of belladonna as a remedy in severe simple tonsillitis, its employment in this affection is not by any means novel. The following is a case in which its use was followed by a speedy recovery :—

A. C——, aged eighteen, had been ill for three or four days with severe left tonsillitis. On admission, the left tonsil and the adjacent arch were found to be much swollen and very red. The inflamed parts had been scarified with some relief, but the formation of abscess seemed to be imminent. The pulse was 100, rather weak; the temperature 100·4°. Five grains of calomel and an aperient draught were administered shortly after admission. When Dr. Jones saw the patient, he ordered twenty drops of the officinal tincture of belladonna to be taken in half an ounce of water every two hours. On the second day after admission the voice was much improved, and the patient had less difficulty in swallowing. On the fourth day the patient had slept soundly during the whole of the previous night; the pulse was natural, the swelling had much subsided, and she was free from all distress. On the eleventh day the tonsil appeared to the eye to be quite natural; but when felt from the neck it still seemed to be somewhat enlarged. With the exception of four-and-twenty hours, during which the doses were given every four hours, the belladonna was taken every two hours until the fourth day; the frequency of the dose was then reduced to every four hours until the sixth day, when the treatment was discontinued. It will be seen that while the dose was repeated every two hours, belladonna was being taken at a rate of about ten grains of the extract in every twenty-four hours, though some deduction must be made for doses omitted at night, especially towards the close of the treatment. Nevertheless, neither in this case, nor in numerous others in which large doses of the drug have been prescribed by Dr. Jones for the same affection, has any toxic effect been observed to follow.

Dr. Jones considers that this medication is more appropriate where the tonsils are acutely inflamed than in those cases where there is general inflammation of the fauces, without special affection of the tonsils. In the latter case he thinks that either iodide of potassium or the solution of sesquichloride of iron, according to the quality and stage of the inflammation, is preferable; and though he often combines with the belladonna a little quinine, or sulphate of magnesia, or an emetic, according to the indications of the case, and sometimes the use of steam,

or a blister applied externally to the neck, he feels justified in maintaining that the success which he has attained in the treatment of these cases is not to be attributed so much to these auxiliary measures as to the belladonna. He always gives directions that the administration of the remedy shall be slackened as soon as the throat symptoms are materially relieved, or on the production of any toxic effect.

Dr. Jones does not pretend to decide whether the remedy operates by producing constriction of the arteries, or by a direct sedative effect on the elements of the affected tissue; but he proposes that, if further observation should confirm its value in acute tonsillitis, the patient should be saved the regularly recurring pain of swallowing doses of medicine, by reducing the preparation of the drug to the smallest possible bulk, or by injecting it subcutaneously in the form of atropine.

Art. 135.—*On the Use of Certain Drugs in Insanity.*

By T. S. Clouston, M.D., Medical Superintendent of the Cumberland and Westmoreland Asylum, Carlisle.

(*British and Foreign Medico-Chir. Review*, January.)

The following is a summary of the observations, consisting of three parts, contained in this essay:—

1st. Experiments to determine the effect on maniacal excitement of single doses of certain medicines, stimulants, and food. 2nd. Experiments to determine the effect on maniacal excitement of prolonged courses of certain neurotic medicines. 3rd. An account of clinical observations and experience of the effects of the same medicines in all kinds of insanity.

1. To compare the effect of opium on maniacal excitement with that of bromide of potassium, with that of cannabis Indica, with that of a mixture of bromide of potassium and cannabis Indica, and to compare the effect of these with that of a pure stimulant in large quantity, and with that of a nutritive food, eleven maniacal patients were treated with drachm doses of each of the medicines, and with 4 ozs. of whisky, and the beef-tea made from a pound of beef, on successive days, and the results noted. The experiments were repeated from fourteen to twenty-nine times.

2. A mixture of one drachm of bromide of potassium with one drachm of the tincture of cannabis Indica is more powerful to allay such excitement than any of the other drugs or stimulants tried. It is more uniform and certain in its effects, more lasting, interferes less with the appetite; and to produce the same effect the dose does not require to be increased after long-continued use.

3. Single doses of opium tended to raise the temperature and to lower the pulse; single doses of the mixture above-mentioned, to lower the temperature and quicken and weaken the pulse; of bromide of potassium alone, to raise the temperature and lower the pulse; of cannabis Indica alone, to raise the temperature and quicken the pulse; and of beef-tea, to lower the temperature in the least degree, and to lower and strengthen the pulse.

4. By giving bromide of potassium and cannabis Indica together, not only is the effect of either given separately immensely increased, but the combination has an essentially different action from either of them given alone.

5. Bromide of potassium alone can subdue the most violent maniacal excitement, but only when given in immense and dangerous quantities, and its effects are so cumulative while so given that after they have once begun to appear they increase for days after the medicine has been stopped, almost paralyzing the cerebrum and sympathetic.

6. To produce sleep in mild excitement one drachm of the bromide of potassium is about equal to half a drachm of laudanum. To allay maniacal excitement forty-five grains of the bromide and forty-five minims of the tincture cannabis are rather more than equivalent to a drachm of laudanum.

7. Seven cases of chronic mania were treated for twelve weeks with opium, in doses rising gradually from twenty-five minims of the tincture and to ninety minims three times a day, and the results noted. After getting no medicine for several months, the same cases were treated with a mixture of bromide of potassium and cannabis Indica in gradually increasing doses, and the results noted and compared with those of the opium treatment.

8. Under the opium treatment the patients all lost in weight continuously; their morning temperature was lowered, and also their evening temperature, but the latter (which was too high, and its being high was a bad sign) very slightly, and their pulse was decreased in frequency. The opium allayed the excitement in the larger doses, but it soon lost its effect.

9. Under the bromide of potassium and cannabis Indica treatment the patients only lost in weight very slightly for the first six weeks, and after that they gained, their weight being more at the end of eight months' treatment than it was to begin with. Their appetites were not interfered with. Their temperature fell, especially their evening temperature, and the pulse was slightly increased in frequency and weakened in force, while the excitement was subdued, and the medicine showed no signs of losing its effect, even after being thus used for eight months. The maximum of good effects and the minimum of the ill effects of a sedative drug were thus obtained by using the bromide of potassium and the cannabis Indica in combination. The bromide of potassium alone may be continued for months in doses of half a drachm three times a-day, and the patients gain in weight and remain healthy in body.

10. Cannabis Indica being a diuretic, and the bromide of potassium being carried off by the kidneys, it is probable that the former in that way helps to prevent the cumulative action of the latter when given alone.

11. When the two are given together the first symptoms developed are those of the cannabis Indica, but these soon merge into a state of drowsy calmness of the nervous system, which is in all respects the opposite of nervous irritability.

12. Fifty-one cases of various forms of insanity were treated by bromide of potassium alone, or along with Indian hemp, and the results were that 80 per cent. of these were benefited more or less in some way, and 25 per cent. were most decidedly benefited.

13. The milder cases of puerperal and climacteric insanity were sometimes remarkably benefited by drachm doses of the bromide of potassium given at night.

14. In some of the cases of acute mania the excitement was subdued in a few days by the bromide combined with Indian hemp in doses of from half a drachm to a drachm of each given three times a day.

15. In some cases of periodic mania and general paralysis all the worst symptoms of maniacal excitement were allayed by giving a mixture of bromide of potassium and cannabis Indica in doses of from half a drachm to a drachm and a half of each three times a-day. This was continued in one case for nine months with the best effect.

16. In three cases of periodic mania attacks were cut short by a mixture of the two medicines, or by the bromide alone. In one of these complete recovery followed.

17. Fewer cases of simple melancholia were benefited by the bromide alone, and along with Indian hemp, than any other form of insanity. Some were made worse by them; but in one case of this disease, where there was great excitement and hallucination of hearing, and suspected organic disease of the brain, the combination gave immediate and complete relief of all the symptoms for four months.

18. One case of senile mania was successfully treated at home by a mixture of the bromide of potassium and tincture of cannabis Indica, when she was to have been sent to an asylum. It seems probable that some such cases, and also patients with short attacks of mania, might be treated by the same medicines at home, when at present they have to be sent to lunatic asylums on account of the want of such a safe and powerful sedative.

Art. 136.—*On Organic Matter in Water.*

By Charles Heisch, Lecturer on Chemistry at the Middlesex Hospital.

(*Quarterly Journal of Science*, January.)

In a paper on organic matter in water, Mr. Heisch indicates a very simple test for the presence in water of organic matter arising from sewage contamination, which consists in adding ten grains of pure loaf sugar to six ounces of the suspected water, and setting the bottle aside for a few days in a warm place exposed to light, when, in the event of a sensible quantity of this unwholesome form of organic matter being present, the germs become developed with generation of small spherical cells and strings, which are easily discoverable under the microscope, and, in extreme cases, cause a general turbidity, with production of a butyric odour. Filtration through the finest quality of Swedish paper was found to be ineffectual in keeping back this kind of impurity; but treatment with animal charcoal and subsequent filtration proved much more efficacious in removing this source of contamination.

Art. 137.—*Test for Strychnine.*

By Dr. W. Wenzell.

(*Quarterly Journal of Science*, January.)

Dr. Wenzell finds that a solution of one grain of permanganate of potash in 2000 grains of sulphuric acid is, *par excellence*, the test for the successful demonstration of traces of strychnine. The limit of positive recognition by the bichromate of potash and sulphuric acid test may be placed at 1-100,000th, that of the chromic acid test at 1-600,000th, and that of the permanganate at 1-900,000th. The discovery of this use of permanganate is due to Dr. Guy, of London.

Art. 138.—*Laws Regulating Electro-Magnetic Force.*

By R. C. Shettle, M.D., Physician to the Royal Berkshire Hospital, &c.

(*British and Foreign Medico-Chir. Review*, January.)

The purport of this paper is to demonstrate the analogy, if not perfect identity, which exists between the electro-magnetic and vital forces. Dr. Shettle thus summarizes the chief points upon which he insists :—

1st. The principal trunks and branches of the nerves wind spirally round the heart.

2nd. That the muscular fibres are arranged in like manner, so as to form interminable coils.

3rd. That the nerve-fibres may be compared to the primary, and the muscular fibres to the secondary coils of an electro-magnetic machine.

4th. That currents of electricity are known to pass through the nerves during their active state, and such currents must induce like currents in the muscular fibres.

5th. That the ganglia to which Dr. Beale and others attribute the action of the heart are formed in a most peculiar way, and must be amenable to certain fixed laws.

6th. That there is one force, and only one known force—viz., the electro-magnetic, that could cause the formation of such ganglia, and by a consideration of the laws of that force we find a precise law, even to the most minute particulars, by which these ganglia not only may be formed but kept moving, in obedience to the conclusions arrived at by Dr. Beale.

7th. That the mode in which the spinal cord and striped muscular fibres are built up, as proved by the dissections of Mr. Lockhart Clarke, bear equal testimony to the nature of the vital force.

8th. That the blood-corpuscles are made the medium of conducting this force from the pulmonic to the systemic capillaries, where it is made the medium of carrying on and determining the nature of the chemical action.

9th. That oxygen, especially in its allotropic condition, by the magnetic

force it contains, is the principle that renders the blood-corpuscles magnetic.

10th. That the process of osmosis, which is known to go on during the coagulation of the blood, is especially an electric action, and consequently an evidence of electricity escaping from the corpuscles during coagulation of the blood.

11th. That waves of electricity must during life be constantly passing from the heart to the lungs, and also from the lungs to the heart, which currents exert a most powerful influence in maintaining the balance between the rhythmical action of the heart and respiration.

12th. That direct experiment has proved that the blood may be magnetic or diamagnetic; and further, it would appear that exposure to air, or withdrawal from the body, or any interference with its natural flow in the vessels, causes it to lose its magnetism, and that when drawn from the vessels in a magnetic state, it gradually becomes more and more decidedly diamagnetic.

Art. 139.—*Case of Impotence Resulting from Onanism, Cured by Electro-Magnetism.*

By Dr. Furstein, of Ohio.

(*Medical Record*, April 1.)

Dr. Furstein reports a case of impotence in a man aged twenty-six, who, from the age of fifteen to nineteen, was addicted to onanism, but which was relinquished after the latter period. At the age of twenty-three he found himself impotent. Various remedies failing, electro-magnetism was resorted to, and after fifty-two applications, twice a day, continued from ten to thirty minutes, his powers were restored.

Art. 140.—*On the Composition of Lint.*

By T. Greenish.

(*Quarterly Journal of Science*, January.)

Mr. T. Greenish has examined microscopically the various articles sold as lint. The result appears to be that those labelled "lint" consist entirely of cotton; while, with one exception, those described as "flax lint" contain more or less cotton, but, by an ingenious arrangement of the materials, the linted surface is composed almost entirely of flax. There is an idea prevalent that cotton forms an extremely bad application to sores, causing great irritation; and linen is generally preferred in dressing. Should this prove to be the case, any adulteration of flax lint would be an undoubted evil; but lint wholly of cotton is used extensively in hospitals, and had it been productive of any bad consequences, its use would soon have been discontinued. The peculiar lint known as charpie, employed in Continental hospitals, and the marine lint, were also examined. Microscopical examination

fails to throw any light upon the alleged irritating properties of cotton, as although the fibres are flat, they have a perceptible thickness at the edges, and are, moreover, rounded; the section of a cotton filament being somewhat like that of a thin tube flattened. It has been suggested that the cause of irritation was not owing to the form of the fibre, but to its hydroscopic power of twisting when moistened, and causing irritation by its movement.

Art. 141.—*Transfusion of Blood.*

By Benjamin W. Richardson, M.D., F.R.S.

(*The Lancet*, February 18.)

At a meeting of the Medical Society of London, on January 29th, Dr. Richardson read a paper on the above subject. He said that for the last twenty years he had been trying to get satisfactory instruments for the performance of this operation, and he had now obtained what he wanted. Transfusion was one of the most simple or most troublesome operations, according as details were perfect or imperfect. These details had reference to the needle, the knife, and the passage of fluid into the vein. As to the needle, he believed he had obtained a satisfactory one. It was curved, probe-pointed, and with an opening in the under side at the top, curved so that when introduced into the vein, if the end was held down, the apex applied itself to the upper wall of the vein, whilst the under side of the needle was free, and allowed the blood to escape. The straight needle comes in contact with the vein, so that the latter blocks the opening for the escape of blood. As to the knife, it should be one to enter the vein at once, having a small blade with a cutting edge along the entire of one side, and only for about one-eighth of an inch on the other, so that the vein might be punctured at once and the needle pushed in so as to cut the upper wall of the vein and the skin together, and so that the vein should not be laid bare, for then it rolls uncomfortably. As to the passage of fluid, all syringes were bad. No force is really required. The mere matter of elevation of the vessel containing the blood above the patient is sufficient. Dr. Richardson then described a vessel he had constructed. It is constricted at the base and then widened out gradually to the top. At the constricted part a wet valve is formed by a floating ball when the vessel contains fluid, and this fluid gets low in the vessel. From the lowest part of the vessel is an arm attached to a tube, and this tube is connected with the needle, the fluid from the vessel finding its way along the tube to the needle. In transfusion it was only necessary to fill the vessel and elevate it above the level of the body when the needle was introduced into the vein. Dr. Richardson entered into considerable detail as to the various fluids that might be injected, and the conditions of disease in which these might be used, and mentioned that he had tried without result to find some substance that we could use to feed by the veins; but he was now taking blood, and manufacturing from it blood-powder, which, on the addition of water to it, produces a fluid

having all the characters of blood, and he hoped soon to get a "blood-powder" that might be very usefully employed in transfusion.

A very brief discussion took place in reference to the utility of transfusion in different diseases.

Art. 142.—*On Tent Hospitals.*

By Dr. Schatz, ex-Surgeon in the American Army.

(*Annales d'Hygiène Publique*, Octobre, 1870.)

Dr. Schatz concludes an interesting article on this subject with the following remarks :—

"It follows, I believe, from the facts given in this article, that prolonged sojourn in the air, light and warmth, isolation, and, at the same time, constant attention to hygiene, have an undoubted favourable influence upon the success of surgical operations. This is not a mere theory, but results from the numerous facts at our disposal.

"This mode of treatment has already rendered good service in campaigns, but its application should not stop here. Happily wars are rare, and, in consequence of the present means of destruction, and of numerous armies, their duration is short. This good service, however, may be rendered to civil hospitals, and to ordinary surgical practice.

"Surgeons have constantly been struck by the success attending operations in the country where patients may, as it is said, be mutilated without bad results, and this fact has been attributed to the better hygienic conditions under which the patients necessarily exist.

"Well, then, let us transport to the city the conditions of the country, and afford to our patients sun, air, isolation ; and we shall avoid long-continued suppuration, erysipelas, purulent infection, and all affections which decimate the unfortunate subjects of operation.

"At the same time, let us protect our patients against the inclemencies of seasons, and enable them to bear without bad results the cold of night and the heat of the sun ; with these objects in view, let us place them under *tents*, and isolate them from infecting centres in large gardens, where they may remain at ease and recover speedily."

PART II.—SURGERY.

SECT. I.—GENERAL QUESTIONS IN SURGERY.

Art. 143.—*On Dissection Wounds.*

(*Gazette Medicale de Paris*, No. 38, 1870; *Étude sur les Accidents produits par les Figures Anatomiques.* Par Dr. Vernot. Paris.)

There are certain varieties of the affection caused by dissection wounds, of which the following are the principal:—

1. *Mild lymphangitis and lymphadinitis.*—These may be regarded as a slight form of reaction against the cadaveric virus. It is not, however, always easy to decide the question in any given case, because one often meets with lymphangitis produced by local lesions of very little importance, where there has been no true infection.

2. *Local inflammation in the form of pustules, boils, abscesses, and panaris.*—Boils seem to be the most frequent local affection in cases of cadaveric infection; they are generally seated on the dorsal aspect of the hand or fingers. Roser thinks that they may be developed by the prolonged contact of unbroken skin with pus of a bad kind, especially if this fluid is allowed to dry there. The affection almost always remains a local one, but lymphangitis and severe typhoid symptoms have sometimes been observed in association with these boils. Panaris is not a rare occurrence after slight lesions of the digital extremities. It has been observed in all degrees, with or without lymphangitis; it frequently terminates in partial or total necrosis of the last phalanx, or may lead to diffuse inflammation of the tendinous sheath with necrosis of the tendon; finally an abscess is sometimes developed in the cellular tissue, and a phlegmonous infiltration of the hand and fore-arm. In these cases it cannot always be decided whether or not the affection results from poisoning by a cadaveric virus.

3. Various forms of wandering erysipelas, phlegmonous erysipelas, erythema and acute or chronic eczema, have been observed after wounds made during dissection; but of these it is impossible to determine the etiology.

4. *Anatomists' tubercle.*—This bears a striking resemblance to lupus, and is very difficult to heal. One sometimes observes moist warts with small interpapillary abscesses, which can be emptied with pressure; in other cases, there are dry epidermic formations, which are very painful and resemble corns. Under the microscope these growths present cells similar to those of lupus. The less severe examples get well spontaneously in the course of a few months or weeks; in some instances the affection is serpiginous, and spreads to the fore-arm, and even the arm, lasting for

several years, and removable only by energetic cauterization or extirpation. This form is as mysterious as lupus, to which it bears much resemblance.

5. *Phlebitis* is rarely observed after cadaveric infection. It appears to be the result of a miasmatic infection, and not of a local inoculation. Roser thinks that the virus produces in the first place a general infection, which, in its turn, engenders phlebitis.

6. *Pyæmic metastasis.*—Of this affection Roser has observed three cases. Two students were attacked with chronic pyæmia and abscesses in several parts of the body. The third case was one of a professor of anatomy, who had been very seriously infected several years before his death. At the autopsy in this case there were found in the lungs three cretaceous deposits, probably the residue of pyæmic abscesses. Instances of *polyarthritic localization* resembling acute rheumatism ought to be classed in this category.

7. The majority of authors admit in cadaveric infection the possibility of a general poisoning of the system without local inflammation. When death takes place shortly after the local infection, or when acute fever is declared early, one must necessarily admit a general infection of the blood similar to that following infection in malignant pustule or glanders. As in the other acute febrile affections it may cause death before the local inflammation has had time to declare itself. Several authors admit in puerperal fever a general infection without inflammatory localization; the affection may take the same course after a lesion contracted from the corpse of a woman who has succumbed to puerperal fever.

Art. 144.—*On the Treatment of Gunshot Wounds.*

By M. Sedillot.

(*Gazette Médicale de Paris*, No. 39, 1870.)

M. Sedillot gives the following as some of the results of his practice during the late war:—

"The most important and least disputed rule is to operate before the development of the inflammatory period, and on the first or second day after the wound. These so-called *primary* or *immediate* operations are sometimes possible on the third or fourth day in patients presenting a tardy reaction, but these are exceptional cases.

"During the inflammatory period these operations are attended with a fearful mortality, which, however, was not less after an expectant plan of treatment.

"The influences of locality, of season, of proper attention, of water, of provisions, of nourishment, and of nationality require fresh investigations.

"At Haguenau, Bischwiller, Reichshoffen, Walburg, Dunenbach, and Pfaffenhoffen, and other places which were visited, it was evident that expectation had not saved one patient out of twenty. Gangrene, hæmorrhage, and, at a later period, purulent and putrid infections, were rapidly fatal wherever several patients had been collected. Happier

results, perhaps, may have been obtained in private houses, holding only one or two wounded, but the mortality here was still very considerable and excessive.

"Secondary amputations, or those performed during the inflammatory period, generally gave excellent immediate results. The patients experienced quite a remarkable relief and openly expressed their content. They rejoiced that they no longer suffered pain and that the appetite had returned; but many succumbed to gangrene, and a very great number to repeated hæmorrhage; finally, between the eighth and the sixteenth day, or even afterwards, symptoms of infection frequently appeared, together with metastatic abscesses, a recovery from which rarely occurred. A pultaceous condition of the wounds, abscesses, sanious infiltrations, and secondary hæmorrhages, made sad ravages among those operated upon.

"The projectiles used in this war produced such severe disorder, and exposed the patient to such extensive suppuration, that it was necessary to lay down the following rules of treatment:—

"A. To reduce the wounds of stumps to their smallest diameter.

"B. Before all things, to favour the free discharge of pus.

"C. To adopt, moreover, a radical reform in the method of amputating. I maintain that, instead of enclosing the ends of bone within soft structures, we ought to leave them projecting and uncovered.

"I visited a great number of ambulances, and among them that of M. Icessel of Strasbourg, where I found more than twenty-five patients who had undergone amputation of the thigh. Those cases in which the stumps were hollow or formed by large flaps were attended by the greatest number of bad results, and the patients succumbed in much greater numbers than those whose stumps were conical and the bones protruding.

"Every penetrating wound of the knee caused by a projectile imperiously demands an unhesitating and speedy recourse to amputation of the thigh.

"Every wound of the scapulo-humeral articulation, with fracture of the head of the humerus, requires disarticulation of the arm. I proscribe the operation of resection, except in exceptional favourable circumstances. I performed this operation four times in one month. One of the patients died from gangrene; two others succumbed to symptoms of infection, and one of these was also attacked with variola. The fourth patient, on the sixteenth day from the operation, performed in consequence of compound fracture of the head of the humerus, was attacked with hæmorrhage, and, as a last resource, the upper limb was removed. The arm was hard, very large, and filled from its upper extremity to the shoulder with a collection of sanious pus. I saw this patient three days after the operation, and he was then doing well.

"I believe that amputation is indicated in compound and comminuted fractures of the thigh, the arm, the two bones of the leg and the bones of the wrist and ankle.

"Expectation may be tried in partial fractures of the hand and foot, in fractures of a single bone of the leg and forearm, and of neck and head of the femur. In the two last cases one can subsequently have recourse to resection, and ulteriorly to disarticulation, if the vitality of

the patients has been sufficiently good to sustain them during the dangers attending the primary stages.

"Dissemination of wounded subjects is an indispensable measure which determines the life or death of thousands of men; and the removal of convalescents and all who are capable of supporting the fatigues of a journey to healthier and better aërated places, remote from the seat of war, is the best means of assuring their recovery."

Art. 145.—*Treatment of Pyæmia at King's College Hospital.*

By John Wood, F.R.S.; and Lionel Beale, M.B., F.R.S.

(*Medical Press and Circular*, April 19.)

Professor Wood has lately had under his care, in conjunction with Dr. Beale, two cases of pyæmia; one of the cases is now well and discharged. The treatment consisted of carbolizing the patient—first, by means of keeping the body in a carbolized atmosphere, employing small muslin bags filled with McDougall's powder, placed in the bed, and keeping the bed-clothes raised by means of a cradle; and secondly, by the internal administration of sulpho-carbolate of iron. The second case is also doing well.

Art. 146.—*On the Arrest of Bleeding and After-hæmorrhage.*

By Professor Roser.

(*Archiv für klinische Chirurgie*, xxi. 1, 1870; *Schmidt's Jahrbücher*, No. 7, 1870.)

Coagulating fibrine contracts, which process of contraction is of great importance in spontaneous arrest of bleeding. This readily occurs where arteries are torn, as the external cellular membrane is rapidly matted together by the coagulating fibrine. On examining lacerated arteries, one does not find any such plug of blood to account for the cessation of the hæmorrhage, but a glueing of the external cellular membrane by means of coagulated fibrine, and the ends of the arteries so contracted, and often reduced to a conical extremity, so that a simultaneous contraction of the fibrine must be admitted. The assertion of some authors that, with laceration of arteries, a kind of spontaneous torsion is produced is not favoured by examination. Even with torsion one finds after twenty-four hours the adventitious vessels untwisted, and the walls of their extremities glued together.

After section of small arteries, which close spontaneously or on compression with the finger, one finds a conical conformation of the divided wall, and occlusion of the vessel by means of a small plug of fibrine. The only possible explanation of this is that the coagulating fibrine in its contraction has drawn to a point the end of the artery. In gunshot

wounds, as in crushing, an infiltration of tissue, and consequently compression by this infiltrated tissue in the sheaths of arteries, and in the intermuscular spaces, are to be accepted as the cause of the arrest. Secondary hæmorrhages may be explained by the breaking of the fibrinous coagulum, and the washing away of the compressing blood-clots through the increased pressure of the circulating blood associated with constitutional excitement.

The plug of blood, frequently present after deligation of arteries, which has been erroneously considered as the most important means of the occlusion of arteries, is sometimes wanting, and is generally so conical in form that it cannot really contribute to this occlusion. Even here the closing of the vessel consists in adhesion and growing together of the parts of the cellular membrane enclosed within the ligature. Many of the after-bleedings which have been attributed to a short plug of blood and the washing away of this, have their origin in a disruption of the distended connective tissue, or of the layers of fibrine which are found at the orifice of the arteries.

When an artery has been incised on one side there is frequently formed an aneurismal sac, which is small, and cannot be diagnosed externally. In consequence of a disruption of this traumatic aneurism hæmorrhage follows, and one denotes this as simple bleeding. This aneurismal cavity may frequently be recognised, if the surgeon makes it a law in cases of secondary hæmorrhage to apply a ligature at the seat of injury.

When the ligature is applied to arteries divided in an amputation, secondary bleeding does not readily occur, except with pyæmia, hospital gangrene, &c. In rare instances the adhesion of the cellular membrane is stretched and the aneurism thus formed broken through. After separation of the ligature protrusion of the granulations may produce disruption of the end of the artery and give rise to hæmorrhage. In these cases a close examination of the parts will reveal a blood-cavity behind the granulations. Prof. Roser has had in one case an opportunity of examining this process in the posterior tibial artery. The hæmorrhage was arrested by filling the cavity with a plug of lint dipped in perchloride of iron, and by temporary compression of the femoral artery.

The warning hæmorrhage of Neudorfer, which was observed by Prof. Roser in the above-mentioned case, seems to be caused by the formation of a small cavity in the granulations, into which, however, the fibrine soon filters and produces occlusion.

After the application of a ligature to the continuity of an artery, subsequent hæmorrhage generally proceeds from below, and hence the conclusion has been drawn that a double ligature should be applied, and the artery divided between the two. This rule Prof. Roser followed in five cases of deligation of the carotid, and in eighteen of deligation of the lingual, without the occurrence of subsequent hæmorrhage. Moreover, it is very probable that such subsequent hæmorrhages with deligation of an artery in its continuity have their origin in excessive extension of the occluding connective tissue. Thus, one may observe after ligature of a large artery that the two ends of the vessel are separated from each other, and united by an elongated portion of connective tissue.

The doctrine that secondary hæmorrhage may arise in consequence of the proximity of a giving off of an arterial branch, or in consequence of too short a thrombus, is unfounded, since in experiments on healthy animals all arteries tied immediately near the origin of a branch, and arteries ligatured after amputations near their branches, were closed. Moreover, occlusion occurred in many instances in which a ligature was applied to the continuity of an artery at the very place of the giving off of a branch.

In the majority of instances after-hæmorrhage is not produced by simple mechanical means, but proceeds from fever and other pathological processes, particularly pyæmia. This last-mentioned condition is the principal cause of hæmorrhages, since it gives rise to fever, and consequently increased pressure of circulating blood, also to a septic condition, and therefore to a slow, imperfect or delayed occlusion, or even to a breaking down of the already-formed occluding material; and, as has been remarked by Stromeyer and Porter, secondary bleeding is frequent where pyæmia prevails.

In exceptional instances only are arteries closed by a thrombus. One may find cases in which no granulations cover the arterial extremities which lie exposed with the gaping calibre filled with a brown-coloured thrombus. Here one must suppose that the portions of the tunica adventitia which had been glued together were again separated; the exposed thrombus having had its origin in inflammation of the external membrane.

Another kind of thrombus, which is formed much more frequently than is generally supposed, is that which occurs after injury of an artery and laceration of its inner coat.

Art. 147.—*On the Occlusion of Arteries after Operation.*

By Frederick Gant, F.R.C.S., Surgeon to the Royal Free Hospital.

(*British Medical Journal*, March 18.)

At a meeting of the Clinical Society of London, on February 24th, Mr. Gant read a paper on the Occlusion of Arteries after Operation, and said that the primary object of this paper was to lay before the Society the author's observations on the process of occlusion in arteries after acupressure, with the view of supplying some guiding knowledge or indications as to the proper period for the safe withdrawal of the needle, without the occurrence or supervention of secondary hæmorrhage. This, although an inferential method of investigation, was obviously a more safe method than submitting living patients to the risk of removing the needle experimentally, in order to gain the requisite practical knowledge by experience. The process of occlusion would appear to consist essentially in the formation of a conical clot of blood, which soon became fibrinous and adherent, so as to securely plug the artery upwards from the transverse line of acupressure; but this was not accompanied or followed by any deposition of lymph and adhesion

of the coats of the artery at the said line, the arterial tunics remaining undivided by the compression temporarily applied. Compared with ligature and torsion respectively, the efficacy of acupressure relied solely on the first provision for the arrest of hæmorrhage, when the surgical appliance, the needle, was withdrawn. In relation to treatment, a firm, fibrinous, and adherent clot-plug having been found to have formed within five days, in a main artery (the femoral), that period would appear to offer a perfectly safe opportunity for withdrawing the needle. Ligature and torsion might, however, be not less securely effectual than acupressure in regard to the non-occurrence of secondary hæmorrhage; but, as to primary union of the flesh-wound, and also as to the prevention of pyæmic infection, torsion had the advantage of not inducing sloughing of the end of the vessel, as ligature did; and it was superior to either of the other methods of treatment in not leaving any foreign body in the wound, for however short a period, to possibly provoke suppuration.

Art. 148.—*On the Use of the Ecraseur for the Removal of Nævoid Growths.*

By James F. West, F.R.C.S., Senior Surgeon to the Queen's Hospital, and Professor of Anatomy in Queen's College, Birmingham.

(*The Lancet*, March 4.)

Mr. West states that the advantages of the écraseur for the removal of vascular and pendulous tumours has been known to him from practical experience for some years, having frequently by means of it taken away hæmorrhoids, uterine polypi, &c., with perfect success; but he had not employed it for the treatment of nævi, having generally been able to cure them by means of the ligature, the chloride-of-zinc paste, or the injection of the perchloride of iron, until I met with a case in which, the ligature failing entirely, he was induced to try the écraseur, and as this answered perfectly, he has again employed it on many occasions; but he is far from saying that it should replace all the other methods which have hitherto been used. Each case must be treated on its own merits. Thus there are certain cases in which the setting up of adhesive inflammation, and the consequent obliteration of the vessels supplying them by the injection of the perchloride of iron, by vaccination, or the introduction of heated wires into them, may be advantageously employed. But this principle cannot be carried out in many nævi of the face, as a large, dense cicatrix is thereby produced, which is often very unsightly. The simple application of collodion, or of pressure by elastic pads, may cure in slight cases.

The destruction of nævi by caustics, again, is attended by uncertain results, and the consequent cicatrices are often deep and ugly, from the impossibility of our gauging the distance to which the caustics—as chloride of zinc, nitric acid, &c.—ought to penetrate the tissues.

The ablation of erectile tumours is probably the most perfectly reliable means of treatment, and this may be accomplished either by enucleation, the ligature, the knife, or the écraseur.

Piecemeal excision or enucleation is often attended with great loss of blood, even where the adjacent arterial trunks have been compressed as completely as possible; and the little patients who are the ordinary subjects of nævi bear hæmorrhage badly, hence the older surgeons were just in laying it down as a rule that, in removing nævi, it was always proper to cut wide of the tumour, and on no account to cut into its mass.

The introduction of either hare-lip pins or of ligatures frequently fails to cure; the latter are especially unreliable with venous nævi of large size, owing to their becoming loose, even though the skin around the growths may not have been included in them. The parts daily diminish in size, so that ligatures have to be again and again applied to ensure the entire destruction of the tumour. Moreover, ligatures often set up troublesome ulceration at the base of the nævi, from which occasionally severe hæmorrhage takes place.

The advantages which, in Mr. West's experience, the écraseur offers are, that hæmorrhage is avoided—an important element in all operations, but particularly so with children, and that a linear cicatrix is formed, and a comparatively small wound; and hence that the deformity which, by other operative procedures, will almost of necessity be produced, is prevented or diminished. Chassaignac, also, claims for it that less inflammatory action and less suppuration attend its use than that of the knife; and, consequently, that the wounds resulting therefrom heal more readily, and are less likely to be followed by pyæmia. On these latter points Mr. West offers no opinion.

Art. 149.—*Remarks on Two Tumours of the Nature of Mole Transformations.*

By Frederick Churchill, M.B., F.R.C.S.

(*Medical Times and Gazette*, April 22.)

At a meeting of the Pathological Society, on April 4th, Mr. Frederick Churchill exhibited two tumours of the nature of mole transformations, both limited to the cutis, and not associated, as far as could be ascertained, with similar growths elsewhere. He said: In the fourteenth volume of the Society's *Transactions* Mr. Bryant described a melanotic tumour developed in a mole, associated with secondary growths in the axilla, abdomen, &c. This is the only instance of mole transformation which I have been able to find recorded in the *Transactions*. I have two tumours of this nature to show to the Society this evening, both limited to the cutis, and not associated, as far as could be ascertained, with similar growths elsewhere. The first tumour was developed from a mole in the lumbar region. The patient, aged forty-five, first came under my notice in December of last year. She had noticed a slight button-like elevation of the skin over one of the lumbar spines from childhood. It was of a dark-brown colour, flat, and smooth. In July of last year she fell downstairs and injured her back. The mole-like growth, which had previously remained stationary, now increased

rapidly. Two months later the tumour was as large as a grape, prominent, and pedunculated. A fine silk-thread was twisted around the neck of the tumour, but no attempt was made to strangulate it. The thread was worn for two months, when it was removed, as it did not check the growth. A thin watery discharge oozed out from the base of the tumour. She also had some pain in it. I advised her to have the tumour removed as soon as possible, and three or four weeks later (February 13th, 1871) she returned, prepared to submit to the proper treatment. A wide margin of healthy integument was removed with the growth. The wound was quite healed three weeks after the operation. There has been no recurrence of the growth up to the present time. There was no evidence of hereditary or constitutional disease. The surface of the tumour was rough and nodulated, mottled of a dark-grey colour. It was attached to the skin by a very narrow peduncle. It was evidently a more aberrant form of growth than the wart-like tumour removed by Mr. Sydney Jones, although apparently developed from the same structures. A vertical section through the centre of the growth showed a radiated arrangement of light and dark bands from the centre to the circumference. The main bulk of the tumour had a single peduncle. There were wart-like growths on the surface. At the base of the tumour there were other distinctly pedunculated growths; these were much darker than the other parts of the tumour, and more deeply pigmented. The structural appearances of the two tumours, so far, resemble one another. Histologically, they are found to differ very considerably. In the more aberrant growth, the tissue is made up of angular cells variously shaped, with bright nuclei, many of them undergoing fissiparous development. Some of the cells contain two or three nuclei; the majority are pigmented. The more deeply-pigmented cells have a quantity of granular matter in their interior. There are, also, some cells arranged in groups. The radiated arrangement of the structure appears to be due to the alternate arrangement of light and dark bands of cells. In the lighter bands, the cells are more distinct, and there is some evidence of fibrillation. Well-defined columns of deeply-pigmented tissue are scattered about over the surface, and follow the more radiated arrangement. The central part contained very little pigment, and the minute structure of the tumour could be more accurately defined by sections taken from this part of the growth. The second of these was a tumour removed by Mr. Sydney Jones from a patient in St. Thomas's Hospital, and I am indebted to that gentleman for the opportunity of showing it to the Society. A young woman, aged seventeen, had a large mole in the left lumbar region, which had existed from birth. She had not noticed anything unusual about it until three weeks before her admission, when a thick, dark-brown crust peeled off from the surface, and exposed a wart-like, papillated growth below, projecting from the surface of the integument. The area of the growth was six inches by two and a half inches. There was some oozing of fluid from between the sulci of contiguous club-shaped growths. The central growths were larger and more prominent than those at the margin. Portions of the growth were covered by thick, laminated shreds of desquamating epidermis. There was a scaly eruption on the buttock of the same side, and she complained of sore-throat and frontal head-

ache. There was no evidence of hereditary or constitutional disease. Microscopic examination of the growth showed simple increased development of the ordinary elements of the cutis, with an excess of pigment in the Malpighian layer of the derma.

Art. 150.—*On Affections of Joints that have been Retained in a Fixed Position.*

By Professor Richard Volkmann.

(*Berliner klinische Wochenschrift*, vii., 30, 31, 1870; *Schmidt's Jahrbücher*, No. 11, 1870.)

"It is not a rare occurrence after healing of a fracture of the lower extremity for inflammation of the knee-joint to come on, the attack generally presenting no very serious characters, but still impairing very much for a long time the free movements of the previously injured limb. Affections of this kind have been explained by a propagation of the inflammation from the seat of fracture to the joint, or by the supposition that the injury which caused the fracture involved at the same time the affected joint. Prof. Volkmann rejects these explanations, since he has concluded from observation of a great number both of severe and of mild knee-affections of the kind, that this joint-inflammation is of very common occurrence, and that it by no means comes on after fracture only, but may be present under any circumstances in any patient who, in consequence either of a traumatic or inflammatory affection, has been constrained to keep the affected limb fixed and in the extended position for a period of weeks or months. According to Prof. Volkmann's views, we should include in this class of lesions a number of joint-affections, which frequently come on during convalescence from severe acute diseases, and which follow a very benign course. One must, however, keep apart the multiple articular affections which occur during the course of an acute disease.

"Even the kind of bandage or apparatus used for the treatment of the original lesion, and for the purpose of rendering the limb immovable, has influence to this extent only, that the affection of the knee comes on the more readily after removal of the apparatus, the more completely the knee had been kept fixed by its use.

"In twelve instances Volkmann observed this affection of the knee after the use of a gypsum bandage, in one instance after the use of a splint of block-tin, and in four cases after extension of the lower extremity by weights. In three instances no apparatus had been applied, but the patients had remained in bed, the position being unchanged in consequence of pain.

"From the brief clinical histories of twenty cases—most of them fractures of the lower extremity and inflammation of the hip-joint—the following points can be made out:—The lesion of the knee manifests itself as a sudden hydrarthrosis, with great tendency to pass into the chronic form, and in some cases followed by frequent relapse. The joint rapidly swells and, at the same time, in the majority of cases, be-

comes painful. Elevation of temperature occurs only in exceptiona instances. In some cases the amount of effusion is very considerable; but in others, on the contrary, the relatively mild affection can only be made out by a close examination of the knee-joint on the affected side, and by learning from the patient that he has for some time previously experienced much pain on attempting to walk, and in moving the joint. Since, however, the patient has for a long time before this been subjected to frequent and severe pain, and the painful feeling in the knee occurs immediately after the first use of the previously fixed limb, he is not much surprised at this symptom, and attributes to it very little importance. This fact is clearly one of the reasons why the joint-affection in question has hitherto been as good as disregarded. A further reason is the fact that on continued use of the limb the effusion in the majority of cases spontaneously disappears, leaving no other lesions behind.

"The effusion into the knee-joint—serous synovitis—makes its appearance almost invariably after the first movement of the limb or an attempt at walking. In two only out of the twenty cases did it come on immediately after the removal of the sustaining apparatus, the patients still remaining in bed. In one instance it came on immediately after the application of an extending weight to the lower extremity. In this case, however, which was one of very painful hip-joint disease, the acute effusion into the knee was probably due to the movements of the patient, who felt himself so much relieved by the use of the weight that he immediately ceased to lie quietly. As by this secondary painful affection of the knee-joint rest was again necessitated, the latter symptoms spontaneously disappeared, and the application of the extending weights was not for one moment discontinued.

"Prof. Volkmann states that he has no doubt, after considering all these facts, that the etiology of this effusion into the knee-joint is to be sought for in the rigidity of the joint artificially produced through immobility of the limb, and by the immobilizing apparatus, and that the affection is of mechanical and not of rheumatic origin.

"MM. Teissier and Bonnet, in their researches on the pathological changes of fixed or disused joints, found in mild cases in which the extensibility and mobility had been gradually impaired, small effusions of blood into the cavity of the joint or into the tissue of the synovial membrane. These are clearly cases in which movement of the joint had taken place, so as to have given rise to partial lacerations of tissue. It may be proved by daily clinical observation that joints, when fixed for a long time, become more or less rigid; if forcible passive movements be now made, one may hear distinctly fine crackling noises produced by the tearing of layers of soft tissue. These noises are not due, as was formerly supposed, to the breaking down of small adhesions and of pseudo-ligamentous bands, but to rigidity of the synovial membrane itself, and of the periarticular connective tissue, which causes tearing and rupture of these structures on movement of the joints. The pain felt by the patient during such forcible passive movement is indeed that of distortion; with regard to the effect, it is quite indifferent whether a normal articular capsule be extended beyond its physiological limits, or a diseased and shrivelled capsule beyond its pathological limits. The result is distortion and synovitis, resulting in rapid effusion.

"From these results Prof. Volkmann derives some extremely important consequences for the treatment of these peculiar inflammatory affections of joints that have been kept fixed. In probably the majority of cases the effusion and the inflammatory symptoms disappear spontaneously with continued use of the limb, and as soon as the articular capsule and the periarticular connective tissue have regained their extensibility and suppleness. If these changes do not take place to a sufficient extent the joint-affection then persists. The worst cases are those in which active movements or attempts at walking are always followed by a relapse, requiring a long-continued treatment. By such cases as these a specially careful treatment is necessitated. Firm bandaging, forcible compression, and the application of iodine and blisters generally cause the effusion and the inflammatory symptoms then present to disappear with rapidity, but the renewed immobilization keeps up the articular rigidity and the tendency to relapse. In severe cases of this kind compression of the parts about the joint must be alternated with well-regulated passive movements, and, above all things, the free mobility of the limb must be restored. Sometimes, after all energetic means have seemingly been exhausted, success is obtained by applying a stiff knee-cap and inducing the patient to move the limb as much as possible, and in spite of the pain and swelling of the joint. Some cases can be cured by nothing less than forcible rupture.

"The ordinary form of hydrarthrosis also, whether it comes on after injury or occurs to all appearances spontaneously, is characterized by a great tendency to relapse. The cause of this depends sometimes upon morbid changes in the capsular ligament, chiefly in abnormal extension of the ligaments, the result either of long-continued and considerable fluid-effusion, or of the injury itself, which has given rise to the effusion, and at the same time caused complete or partial laceration of a ligament. In these cases, as the joint has no safe support, and active movements may cause the capsule to tear, and so bring back the serous synovitis, the application of articulated splints is required. In other cases of relapsing hydrarthrosis, one has to regard the slighter forms of impaired movement of the joint remaining after the absorption of the fluid-effusion, and it will be found advantageous to conclude the treatment with prolonged and methodical attempts at passive movement. Prof. Volkmann frequently makes use of Bonnet's apparatus for this purpose.

"The next question is, how can one deal with fungoid inflammation of the joint, occurring after immobilization for six or eight weeks; in this affection not only is the capsule shrivelled, stiff, and thickened, but the surrounding soft tissues are more vascular, contain more cell-growths, and, consequently, are extremely irritable. The course of this disease is, in all instances, a series of relapses, each of which leaves the joint stiffer and more irritable; this peculiarity has been referred to dyscratic conditions. Dyscrasia, the scrofulous diathesis, plays a part in the clinical history of chronic suppurative and fungoid inflammatory affections of joints, but only so far as it influences the quality and the amount of the reaction, and as it serves to keep up extreme irritability of the tissues. The immediate causes of the inflammation itself are almost always mechanical and traumatic, often, it is true, of the slightest

kind; the causes of the relapse, in addition to the above, are especially dragging or tearing of the partially obliterated and shrivelled synovial sac.

"Fixed retaining apparatuses in chronic fungoid inflammations of joints are to be considered in the mild and still curable forms of these affections as a two-edged sword, since by them the rigidity of the capsule and the tendency to relapse is increased; on the other hand, after the termination of the so-called florid or acute stage, methodical passive movements of the partially anchylosed or fixed joint do much good, and even the removal of the inflammatory deposits and the indolent infiltrations in the peri-articular tissues may be very much favoured by this treatment. To be able to draw a limit, and to say when perfect rest and when well-regulated passive movements can do most service in a case of chronic inflammation of a joint, or whether both means should be used alternately, requires still further investigation.

Prof. Volkmann, during a period of ten years, treated chronic fungoid inflammations of the knee and hip by fixed bandages, gypsum and paste; and in no single severe case did he obtain a cure with complete restitution of the articular movements. During the last five years he has practised extension by weights, which, especially in cases of hip-joint disease, permits much more movement. With this treatment he has brought about a complete cure in many severe cases of disease of the hip, and has obtained restoration of the normal functions of this joint.

Art. 151.—*Severe Injuries Sustained by a Fall of Sixty Feet; Death Nine Days after.*

Under the care of Mr. Erichsen, at University College Hospital.

(*The Lancet*, December 24, 1870.)

The following case, which is gathered from the notes of Mr. Beck, registrar to the hospital, is interesting on account of the transient nature of the spinal symptoms, the peculiar injury to the pericardium, and the length of time the patient survived very extensive and severe injuries.

Louis B——, one of the servants at the Langham Hotel, had been waiting for the descent of the luggage lift, and imagining that it was in the act of passing the story on which he was waiting, made a leap into the shaft. He fell about sixty feet, and alighted chiefly on the right foot, but at the same time his back struck violently against something behind him.

On admission he was quite conscious, but suffering severely from shock. There was great swelling of the tissues below the malleoli of the right foot, especially on the inner side; the swelling extended a short distance up the leg, and on the inner side it fluctuated freely, and was obviously due to effusion of blood. The malleoli themselves were immovable, and afforded no crepitus; but indistinct crepitus, apparently in the region of the astragalus, could be felt when the entire foot was moved; there was no lateral displacement, and the malleoli held the

ordinary relation to the heel. A large tumour, nine inches in diameter, and obviously due to extravasation of blood immediately below the skin, was found in the upper lumbar region. The second and third lumbar vertebræ appeared to be slightly depressed, and laterally displaced; but their position could not be ascertained with certainty on account of the swelling. The legs could be freely moved. Crepitus was detected about the seventh rib on the left side, four inches from the sternum. The patient suffered great pain, especially in the back. On the second day he felt better, but suffered a great deal of pain. He passed water freely until the afternoon; in the evening the use of a catheter was required. The pulse was natural.—Fourth day: He continued to be unable to pass his water, but felt better. The pulse was 96, full and regular. Sensation and power were unimpaired in the lower limbs.—Fifth day: The pulse was 100 and regular; rather severe hiccough came on in the afternoon.—Sixth day: He had in the morning a well-marked rigor, which was followed by sweating; the pulse was 164, small and weak; the temperature 103·4° F. The pain in the back continued severe, and a burning pain was felt in the back of the thighs and calves of the legs. Motion and sensation were unimpaired; but in the afternoon he complained of crampy pains in the legs. The tongue was covered with a creamy fur, and, in spite of frequent doses of medicine and purgative enemata, his bowels had not been open since admission. There remained some hiccough.—Seventh day: Pulse 124, weak; urine had to be drawn off; no sleep last night; no rigors or cramps; no pain in back or limbs; bowels not open.—Eighth day: Pulse 104, fuller and stronger; hiccough troublesome; bowels slightly open; no spinal symptoms.—Ninth day: A red and œdematous swelling appeared on the root of the neck at the right side; it was tender on pressure, filled up the supra-clavicular depression, and overlapped the prominence of the bone. There was no appearance of effusion of blood; no crepitation.—Tenth day: Died at midday, having for some hours had difficulty in breathing, apparently on account of obstruction caused by the tumour at the root of the neck.

The post-mortem examination was made twenty-five hours after death (Nov. 1st). The body was in an advanced state of decomposition. All the deeper intermuscular planes at the right side of the root of the neck were filled with pus. On opening the abdomen, a little lymph was found in some places between the coils of intestine; the evidences of peritonitis became more marked towards the pelvis, and the recto-vesical pouch was found to contain a mass of lymph about half the size of an egg, of yellow colour and firm consistence. The mucous membrane of the bladder was soft, thick, and congested. The other abdominal viscera were healthy.—Thorax: The seventh and eighth ribs were fractured on the left side; and on the right side, the first, second, seventh, eighth, and ninth. The first and second ribs were fractured about three-quarters of an inch and one inch respectively from their angles; all the others were broken about the middle. The fractured ends of the broken first and second ribs were found bathed in pus exuding from a wound in the apex of the right lung, which was in a state of old phthisical consolidation, and adherent to the pleura; this appeared to be also the source of the pus which had been discovered at the root of the neck. On the anterior surface of the pericardium was a rent two or three inches long,

through the upper part of which passed the phrenic nerve. On one side of the rent there was a small extravasation of blood into the tissue of the pericardium; its edges were slightly ragged and thickened. There were traces of both old and recent pericarditis at the base of the heart. The right pleura was inflamed, and contained a small quantity of grumous bloody matter. Both lung apices presented about two inches of old consolidation.—Spine: The spinal cord, membranes, and the roots of the nerves were all found quite healthy. The spines of the three last dorsal and two upper lumbar vertebræ were found to have been chipped off. The body of the second lumbar vertebra was fractured completely through, and the right transverse process broken off. There was great extravasation of blood round the spinal column, but none within the canal. There was no displacement of any portion of the column sufficient to produce pressure on the cord.—Foot: The os calcis was completely smashed, being reduced to powder at the anterior part. The astragalus was uninjured; but the scaphoid was fractured vertically through the middle of the surface articulating with the former bone. The other bones of the foot were uninjured.

Art. 152.—*Syphilization.*

By Henry Lee, F.R.C.S., Surgeon to St. George's Hospital.

(*Lectures on Practical Pathology and Surgery*, 2 vols., 3rd edit. London: 8vo, pp. 309, 386.)

The following are Mr. Lee's conclusions respecting syphilization:—

1. That no evidence has hitherto been adduced satisfactory to the profession that the syphilitic virus can be successfully inoculated upon a patient who is at the time the subject of constitutional syphilis.

2. That occasionally from the surface of an indurated sore, matter may be taken which, in a subject of constitutional syphilis, may be made to produce a number of local ulcerations, having some of the characters of the soft chancre.

3. That during the continued irritation and depuration produced by such ulcerations, the manifestation of secondary syphilis will disappear.

4. That the time required for the treatment of syphilis in this way is so long, and the inconveniences attending it are so great, that it is not at all likely to be generally adopted in practice.

Art. 153.—*On the Gravity of the Prognosis of Traumatic Lesions in Individuals tainted with Alcoholism.*

(*Gazette Médicale de Paris*, No. 52, 1870.)

"The abuse of strong drinks diminishes the resistance to the causes of disease which are so numerous in time of war, and renders the results of wounds more serious. The fact expressed in the second part of this proposition was in December last the subject of a discussion in the

Academy of Medicine of France. Cases were brought forward to show that under the influence of alcoholism the slightest injury may be accompanied by serious symptoms. The physician, as is known, meets with a number of diseases on which this form of poisoning impresses a form and special course which it is extremely important to recognise in practice, for upon their recognition the success of the treatment very often depends.

"We have three subjects to deal with: a general morbid change, which is a true poisoning of the organism; a local lesion; and the manifestation of symptoms more or less severe. What is the part taken by the general affection, and what that taken by the local lesion in the pathogeny of these symptoms? How do these two morbid conditions combine or react upon each other? What are the conditions that give rise by preference to the development of this or that order of symptoms—local symptoms or general symptoms? Such are the unsolved points of the complex and difficult problem set before the Academy of Medicine by M. Verneuil.

"M. Hardy spoke of the influence of alcoholism upon the course of acute diseases, such as pneumonia, erysipelas, variola, angina, &c. The existence of this complication is sometimes, though rarely, manifested by all the symptoms of delirium tremens, at others by simple delirium, by restlessness, by obstinate insomnia, by depression of spirits, by an appearance of hebetude, by trembling of the hands or some cutaneous eruption as pustules of acne upon the nose, and papules of prurigo pedicularis. The action of alcoholism results in a depression of vital force, ataxia, adynamia, and a tendency to a sad termination. Notwithstanding all this, the prognosis is not so serious in surgical cases as is supposed by M. Verneuil. Out of three alcoholic patients suffering from variola with delirium, M. Hardy saw two recover. This physician protests against the statement laid down by M. Verneuil that the prognosis in acute cases, complicated with alcoholism, is always very unfavourable and often fatal. M. Hardy gives his views on this subject in the following propositions:—

"1. From the medical point of view alcoholism seriously complicates acute affections;

2. The prognosis is very grave, but not fatal;

3. The best treatment is that of administering alcohol.

"According to M. Gubler, this administration of alcohol is really but a matter of hygiene. In order to increase the chances of success he recommends prescriptions of opium or chloral. But opium itself may fail. When, after some days of employment of this agent, the symptoms persist, we know that the purely nervous or neurotic phase of alcoholism has made way to a condition of irritation and congestion, or to a veritable inflammation; then it is necessary to have recourse to other medicinal agents, among which digitalis occupies the first place. Alcohol, opium, digitalis, are, according to M. Gubler, the most suitable remedies for the successive phases of delirium tremens.

"Delirium tremens is not the only form in which alcoholism is manifested. M. Verneuil has cited cases in which alcoholic patients succumbed to very slight injuries within thirty hours. One has not time for employing successively in these cases, in order to prevent a fatal

result, M. Gubler's three remedial agents—alcohol, opium, digitalis. Hence it is very important in discussing the influence of alcoholism upon traumatism to comprehend the nature and the characters of the symptoms which, in wounded subjects, may be legitimately attributed to the chronic effects of drink. Without doubt these symptoms are variable, according to the number of their conditions; but they should have a common basis enabling us to recognise them. When this point has been studied, examined, discussed and resolved, that is to say, when the symptoms shall have been well determined, we shall then be able to commence researches into the proper means for relieving or preventing them. We shall have, no doubt, to rely more upon hygiene than upon therapeutics. We must not forget that the hygiene of our hospitals is bad, and ought to be the object of complete revolution and renovation.

ART. 154.—*On the Property possessed by Arterial Trunks of Resisting better than Nervous Trunks the Direct Action of Spherical Projectiles.**

By M. BONNAFONT.

(*Archives Générales de Médecine*, No. 10, 1870.)

"CASE 1.—A private of the 26th regiment received in Algeria a gun-shot wound, the projectile penetrating from behind forwards the right axillary hollow. Almost the whole nervous plexus was divided, and also the axillary vein. The integuments and fleshy parts were much lacerated and even crushed, and blackened by powder; the contents of the gun-barrel remained in the wound after having produced there so much destruction. In the midst of this disorder the artery remained intact, and appeared isolated as a cord for an extent of four to five centimetres.

"CASE 2.—Here the ball traversed the posterior border of the axilla, the axillary hollow, and made its exit at the anterior part of this region, thus traversing the fold formed by the great pectoral muscle. The wound when exposed presented the following lesions: complete destruction of the whole integument of the axillary hollow; all the nervous trunks and the axillary vein were torn; the artery alone remained intact, and was detached from surrounding tissues along an extent of four centimetres. The projectile had evidently struck the artery in its transit, and glided upon it so as to have passed upwards and downwards before making its exit.

"In the presence of these facts one would ask if there is not here some special cause preventing lesion of the artery, and, consequently, fatal hæmorrhage, particularly as the nervous cords, which are much more resistant, were torn under the influence of the same cause.

"This special and conservative cause seems to reside:—1st, in the cellular and elastic structure of the walls of an artery; 2nd, and chiefly in the cylindrical form which the plenitude of blood and the

* Communicated to the Académie des Sciences.

pulsations render still more resistant. Under these conditions it may be well imagined that a tube with smooth, resistant and elastic walls may, even to a certain extent, impress a slight deviation upon a spherical projectile with a surface equally smooth, which directed with great force and with a rapid rotatory movement, may often become deviated by an encounter with even an insignificant object.

Art. 155.—*On Compression of the Vagus Nerve as a Means of Causing Asthenia or Anæsthesia during Surgical Operations.*

By Professor August Waller.

(*Allgemeine Wiener Medizinische Zeitung*, No. 10, 1871.)

"1.—Compression of the vagus nerve causes a state of asthenia which may be advantageously induced during the reduction of dislocations and other small operations. This proceeding may be preferred in several cases to narcosis from chloroform, since it is free from danger. It could always be tried in cases of difficult reduction, before recourse is had to the administration of chloroform.

"2. The practice of compression during dental extraction produces insensibility to pain, and can therefore be carried out in many cases with advantage, and also with the same object in other minor operations, as for phimosis, paraphimosis, extraction of necrosed bone, and the like."

Art. 156.—*On the Cicatrization of Muscles after Subcutaneous Section.**

By M. Hayem.

(*Gazette Médicale de Paris*, No. 40, 1870.)

On March 5th, 1870, a subcutaneous section was made in the right anterior extremity of an adult and well-developed guinea-pig; the muscles were cut through down to the bone. On March 14th, a similar operation was performed upon the left anterior extremity, but the section was not carried so deeply. The animal was killed on March 26th, twenty-one days after the first section, and twelve days after the second.

At the autopsy it was observed that the section on the right side had fallen upon the triceps brachial muscle, and cut through nearly the whole of its thickness. The nerve and corresponding vessels had been divided. The result was a deformity of the region, which consisted in a depression at the part corresponding to the belly of the muscle. The hollow was occupied by a fibrous band, which adhered to the aponeurosis and to the neighbouring areolar tissue. The two divided ends of the muscle were about a centimetre and a half apart, each terminated in a cicatrix, and the two cicatrices by their adhesions to neighbouring parts

* Communicated to the Société de Biologie.

formed the fibrous band indicated above. On cutting longitudinally the superior part of the muscle, the tissue was found healthy and rosy and presented precisely the same appearance as that of uninjured muscle. The extremity of the muscular stump was of a reddish-white colour, and of a fibrous appearance.

The inferior portion of muscle—that adhering to the olecranon—also presented a fibrous cicatrix at its extremity. The muscular portion was composed of two distinct portions; one peripheral, rosy, and somewhat paler than healthy muscle, but still almost quite normal in appearance; the other and central portion formed a distinctly circumscribed yellowish nucleus, which projected from the surface of the body, and resembled the so-called fibrinous infarctions. At this part the muscular tissue was of a caseous consistence.

On the left side only a part of the thickness of the triceps had been cut through. The two retracted portions of muscle were united by means of a fibrous cicatrix. Microscopical examination revealed the following peculiarities. In the neighbourhood of the cicatrices the muscular tissue presented characters of subacute myositis. The fibres were in a state of granular degeneration, and the nuclei were increased in number. The parts nearest to the cicatrix were rich in atrophied fibres which terminated in points frequently bifurcated, and contained nuclei and fine granulations. On penetrating into the thickness of the muscular stump, the tissue was found to regain its normal characters at all parts, save those corresponding to the caseous nucleus. This was constituted by broken-down fibres in a state of granular degeneration, and also contained some free myoplastic bodies, composed of fusiform cells with a finely granular protoplasm and of nuclei with nucleoli resembling in all respects muscular nuclei.

In the tissues of the cicatrices were found in the midst of connective elements tracks more or less rich in corpuscles or granular patches, containing one or more muscular nuclei. These elements were especially abundant in that of the cicatrix which was in contact with the muscular tissue; the further one passed from this point the more the cicatricial tissue acquired the appearance of fibrous connective tissue; here and there were seen nuclei of a muscular origin surrounded by granulo-fatty granulations.

These experiments demonstrate that in muscular sections the divided ends after retracting become inflamed at their free surfaces, and are the seat of a subacute neoplastic myositis, in which the old elements give rise, by proliferation of muscular cells, to abundant myoplastic bodies; that the inflammatory process, far from causing a complete restitution of the form and size of the muscle, gives rise only to fibrous bands or cicatrices in which one finds after a short time merely the vestiges of multiplied muscular elements.

In several analogous experiments M. Hayem obtained similar results, and he has remarked that the fusiform myoplastic bodies which appear very rapidly in the cut surface of the muscle have from the first a nucleus altogether resembling muscular nuclei. He admits that these elements owe their origin to the multiplication of the muscular cells of the divided fibres. In no case has he been able to verify the opinion of Waldeyer, who holds that they proceed from the interstitial tissue.

The first-mentioned experiment presents one important particular: this is the presence of a cheesy centre in the thickness of the inferior muscular stump on the right side. This, considering that the vessels were divided at this part, ought to be considered as an anæmic lesion, a veritable infarction, and presents a remarkable analogy to the decolorized caseous centres which are found about muscular hæmorrhages, and which are due, as has been previously shown by M. Hayem, to vascular obstruction.

Art. 157.—*On Anthrax of the Face (Carbuncular Inflammation).*

By M. Reverdin.

(*Archives Générales de Médecine*, Nos. 6, 7, 8, 1870.)

1. Anthrax and furuncle of the face are attended with special gravity.
2. This gravity is due to the fact that these affections are readily complicated by phlebitis.
3. Facial phlebitis causes death either by being propagated to the sinuses of the dura-mater, or by becoming the source of purulent infection.
4. Anthrax of the face is more frequently complicated by phlebitis when it attacks the lips; this fact can be explained by the peculiar structure of the lips.
5. Anthrax of the lips presents nothing in common with malignant pustule.
6. Invasion of the orbit by phlebitis, indicated by exophthalmia, announces with almost complete certainty an extension of the inflammation to the sinuses.
7. An incision made as speedily and as extensively as possible, seems to be the best means of preventing, and sometimes of arresting, the phlebitic complication.

Art. 158.—*Three Cases of Injury to the Brain, with an Appendix of Cases.**

By G. W. Callender, F.R.C.S., Assistant-Surgeon to St. Bartholomew's Hospital.

(*The Lancet*, February 25.)

In this communication attention is directed—first, to the frequency with which convulsions or rigidity are associated with paralysis of the left side of the body, as compared with that of the right; secondly, to the occurrence of these symptoms in cases of injury or disease of those parts of the right cerebral hemisphere which lie above the corpus striatum.

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* Abstract of a Paper read at a Meeting of the Royal Medical and Chirurgical Society, February 14.

After referring to some observations with reference to diseases of the membranes and around the principal cerebral arteries as associated with the occurrence of convulsions, some cases of left side paralysis are quoted from the practice of St. Bartholomew's Hospital, three of which are given in detail. These cases, added to others recorded by various observers, give the following results:—Side paralysis, 109 cases; rigidity or convulsions in 46. Right-side paralysis, 48; rigidity or convulsions in 7. Left-side paralysis, 61; rigidity or convulsions in 39. Cases in which parts above the corpora striata are affected: Left side, 37 cases; convulsions in 7. Right side, 47; convulsions in 39. Cases in which the corpora striata, including the optic thalami, are affected: Left side, 11 cases; convulsions in 0. Right side, 13; convulsions in 0.

For convenience of reference an appendix is added, giving the cases referred to, arranged in two tables, and an outline map of the brain.

SECT. II.—SPECIAL QUESTIONS IN SURGERY.

(A) CONCERNING THE HEAD AND NECK.

ART. 159.—*Traumatic Paralysis of the Visual Accommodation.*

By GEORGE C. HARLAN, M.D., Surgeon to the Wills Ophthalmic Hospital.

(*American Journal of the Medical Sciences*, January.)

The following case is recorded by Dr. Harlan:—

A young man in full health came to the Wills Hospital, complaining of dimness of vision in the left eye. Fifteen hours before, the eye had been struck by a piece of iron chipped from a tool that he was working with. There was no pain, and no external appearance of injury but a slight general injection of the conjunctiva. He complained only of dimness of vision. No application had been made to the eye. The pupil was widely dilated, only a narrow rim of the iris to be seen. The acuteness of vision was very much diminished. At 20 ft. only No. 70 of Snellen's type could be distinguished, instead of No. 20 as with the other eye. V.$=\frac{20}{70}=\frac{2}{7}$. Small type could not be distinguished at any distance. Examination with trial-glasses showed a hypermetropia of $\frac{1}{48}$, and with a convex glass of 48 in. focus, No. 20 was read with ease at 20 feet, that is, his vision for distant objects became perfect. Vision for near objects was found to be equally perfect with glasses that accomplished the necessary accommodation for different distances. A few drops of a solution of the extract of Calabar bean were applied to the conjunctiva, and in twenty minutes the pupil was smaller than that of the other eye, and he could read the smallest type with ease, but not at a greater distance than 8 in., so that a *concave* glass was now necessary to restore his distant vision. The Calabar bean had not only rendered latent again the slight degree of hypermetropia and restored the power

of accommodation, but, by excessive stimulation of the ciliary muscle, had made the eye temporarily myopic. I expected that it would be necessary to repeat the application, and directed the patient to return in two or three days, but he never presented himself again. In an eye of perfectly normal refraction the loss of the power of adjustment of focus would, of course, affect distant vision only. In this case a low degree of hypermetropia ($\frac{1}{48}$), which is easily neutralized by a slight unconscious action of the ciliary muscle, and never occasions inconvenience when the muscle is active, rendered the eye almost useless when the power of accommodation was lost.

Art. 160.—*Operation for Strabismus.*

By Spencer Watson, F.R.C.S.

(*British Medical Journal*, December 31, 1870.)

At a meeting of the Medical Society of London, on November 28th, Mr. Spencer Watson read a paper on the Causes of Failure in the Operation for Squint. He placed in the hands of the Fellows a copy of the results of an analysis of 103 cases of convergent strabismus. The causes of failure were enumerated under the following heads:—

1. The pathological conditions were in some cases misapprehended. Squint had been supposed to depend in ordinary cases upon mechanical obstructions to the movement of the muscles, or to bands of fascia. But, from the free mobility of the squinting eye, when the other was closed, this was evidently an error. In two-thirds of the cases hypermetropia was one of the conditions present in squint. At the same time, retinal changes had a material influence in determinating the permanent character of the squint.

2. The operation might fail in improper cases; for instance, where there was eccentric fixation, an apparent strabismus was seen, and here an operation would give rise to diplopia, and would not probably produce improvement in the patient's condition unless the other eye were much impaired in visual power. Or, again, strabismus might be apparent where one eye was very much larger than the other from progressive myopia in one, the other being normal. The cornea of the smaller eye appeared nearer the inner canthus than that of the larger eye, and this appearance might mislead the surgeon.

3. The operation might fail from not being properly performed; the tendon might be missed, or divided too far from the sclerotic insertion.

4. The after-treatment might be improper; the patient might object to a second operation, or to the wearing of spectacles; or, the refraction not having been ascertained, the surgeon might neglect to order the necessary glasses, or might cover up the eye too long. In certain cases of periodic squint, apparent squint, and squint in very young children who could not wear glasses, as well as in cases due to brain-disease, the operation should not be performed.

Mr. Watson remarked on the importance of adapting the kind of operation to the size of the squint, and the advantage of using the

strabismometer before operating. The strabismometer of the late Mr. Zachariah Laurence was the most convenient and effective.

Mr. Brudenell Carter said it was always well to prepare the patient to submitting to two or three operations. In cases of squint from paralysis of the external rectus, division of the internal rectus and faradization of the external one had proved a good way of treatment. Squint sometimes had its seat in a faulty direction of the roots and cones of Jacob's membrane. Something might be done by training the eyes, by accustoming them to blend into one two wafers placed in the stereoscope.

Mr. Jabez Hogg had never seen any signs of congestion of the internal eye in squint; he believed the condition to be one of anæmia. Sometimes, but by no means always, hypermetropia and strabismus went together. Mr. Hogg still pursued the method of operation by a director and bistoury introduced by Dieffenbach, and never saw any bad results follow a free division of the conjunctiva. Squint in children was often due to worms, and could be cured by purgatives.

Mr. Holthouse said that, in his experience, retraction of the caruncle and granulations often followed a free division of the conjunctiva by the old plan of operation. He noticed that often, when the internal rectus had been divided, vision improved at once greatly; this showed that the nutrition of the internal eye was not materially interfered with.

Art. 161.—*On Albuminuric Retinitis.*

By D. Argyll Robertson, M.D., F.R.C.S.E.

(*Edinburgh Medical Journal*, January.)

Dr. Robertson summarizes, as follows, the chief points of interest in this paper:—

1. That dimness of vision is a frequent concomitant of chronic Bright's disease; and that, while in a few cases the defective sight may be attributed to uræmic poisoning of the nervous system, in the great majority of cases it is due to inflammation of the retina, attended with fatty degeneration.

2. That the disease of the retina presents such distinctive ophthalmoscopic appearances as enable it to be at once with certainty recognised.

3. That this retinal affection is found most frequently to accompany the contracting form of Bright's disease, but occasionally, also, the amyloid variety.

4. That not unfrequently, from the insidious progress of the disease, the affection of vision is the first symptom that obliges the patient to apply for advice, and that thus the ophthalmoscope may lead to the detection of previously overlooked kidney-disease; and 5. That in a few cases, the diseased condition of the retina has been resolved, with restoration of function.

Art. 162.—*Case of Injury to the Ciliary Nerves from a Blow.*

By Brudenell Carter, F.R.C.S.

(*The Lancet*, December 3.)

At a meeting of the Clinical Society of London, on November 28th, Mr. Brudenell Carter read particulars of a case of presumed Injury to the Ciliary Nerves from a Blow, and exhibited the patient, a little boy seven years of age, who had received a blow from a bat upon the right eye, eight months previously. Enormous dilatation of the pupil followed the injury. The ophthalmoscope showed that the choroidal pigment around the optic nerve entrance (which formed a well-defined ring in the uninjured eye) had been scattered by the shock, and that an annulus of chloroid round the nerve, and reaching nearly to the yellow spot, was undergoing atrophic changes. The inference was that the coats of the eyeball in this region had been strained and injured by *contre-coup*, and that the ciliary nerves had participated in the injury at their entrance into the globe. The dilatation of the pupil was greater than paralysis of the filaments from the third nerve would explain; and seemed to suggest active irritation of the sympathetic filaments of the dilatator. There was no impairment of vision, and no paralysis of the external ocular muscles.

Art. 163.—*Nævus of the Orbit, Protrusion of the Eye, and Suppuration of the Cornea; Excision of the Globe and Removal of the Nævoid Tumour; Recovevy.*

Under the care of Mr. George Lawson.

(*The Lancet*, January 28.)

The following very interesting and exceptional case occurred in the practice of Mr. Lawson, at the Ophthalmic Hospital, Moorfields.

On November 8th, 1870, a little child, aged three years and two months, was brought to the hospital with a great protrusion of the left eye, and evidently suffering considerable pain. The eye was bulged fully half an inch beyond the boundary of the orbit, but the child was still able to close the lids over it. The globe was projected directly forwards, and no tumour could be felt with the finger around any portion of the circumference of the orbit. The cornea was perfectly clear, and the eye otherwise healthy. The mother stated that the eye had begun to protrude about six months previously, but that the bulging had remained almost stationary until ten or twelve days before her application to the hospital, when, without any apparent cause, the protrusion of the eye became rapidly greater, and had since increased daily.

As it was difficult to decide on the nature of the tumour, the child was kept under observation, and ordered to attend regularly as an out-patient.

On November 18th, the child was admitted with the mother into the hospital, as the severity of the symptoms had greatly increased. The eye was much more bulged from the orbit, it had lost the protection of the lids, which could no longer be closed over it, and from the consequent exposure, the cornea was beginning to suppurate, the lower half of it was semi-opaque, and the conjunctiva of the globe was chemosed. The child was evidently in great pain, constantly moaning, and unable to sleep except in short snatches. To relieve the sufferings of the child, and also to obtain a correct knowledge of the growth behind the globe, Mr. Lawson decided to remove the eye. On dividing the optic nerve with the scissors, a copious stream of blood followed, and the tumour within the orbit at once collapsed to nearly one-half its former size.

On examination, a vascular growth, composed of large veins, with a cellular matrix, was found to occupy the orbit. Drawing the nævoid tissue out of the orbit with a pair of forceps, so as to keep it on the stretch, Mr. Lawson excised the greater portion of it, leaving only a small part of the tumour at the apex of the orbit. The cavity was then plugged with a small piece of sponge soaked in the liquor ferri perchloridi, and a compress to arrest further hæmorrhage was applied over the closed lids with a flannel bandage.

The sudden diminution in the size of the tumour, on the division of the optic nerve, was due to the tumour having been cut into with the scissors, and the immediate escape of a large quantity of blood which had accumulated in a cavity in the centre of the growth. One of the large veins of which the nævoid tissue was composed had evidently given way, and blood had been effused into the substance of the tumour. This also explains the sudden increase in the size of the growth, which was one of the remarkable symptoms in the history of the case.

The child recovered without a bad symptom, and has since continued well.

Art. 164.—*On Cataract and its Treatment by the Semi-lunar Corneal Incision.**

By Jabez Hogg, M.R.C.S., F.L.S., &c., Surgeon to the Royal Westminster Ophthalmic Hospital.

(*Medical Press and Circular*, March 29.)

Mr. Hogg commenced by stating that, in placing before the Medical Society the results of last year's experience of thirty successful extractions and three failures by the semi-lunar incision, he was merely influenced by a desire to show that this well-known operation has in no way lost its hold upon ophthalmic surgery, or forfeited the confidence placed in it for so many years at the Westminster Ophthalmic Hospital. The introduction has not yet occurred of modifications and improvements which it might be thought had entirely superseded the old-fashioned flap operation, and also that of more modern date, linear

* Abstract of a Paper read at the Medical Society of London, March 10, 1871.

corneal section, both of which have been for so many years most successfully and largely practised. That what Mr. Travers wrote of semilunar section some fifty years ago, is quite applicable at the present time, as this operation is by far the most perfect ever devised for the cure of hard cataract, and the patient obtains clearer and quicker sight than by other methods. Its alleged disadvantages in Mr. Hogg's opinion are comparatively unimportant; one especially dwelt upon by those who do not follow this plan is, that with a large semi-circular incision we are very likely to have an escape of the vitreous, but since it is not always necessary to make a large opening to deliver the lens, this difficulty will not often arise. Then dilatation of the pupil before the operation always allows of a fair estimate of the size required, while it lessens the danger of wounding the iris and renders the lens more accessible and facilitates its extraction.

The instillation of a drop of *atropine* beforehand is useful, as it enables the surgeon to determine the presence of an adhesion, which might mar the operation. It also assists a *diagnosis* in the case of a patient presenting some constitutional complication, as rheumatism; it is then not unusual that any operation will be followed by rheumatic iritis. In anticipation of such an event, Mr. Hogg thought it might be safer to make a previous *iridectomy* before attempting extraction. The two operations might be performed at the same sitting, and which will be found as successful as the practice of allowing a week or more to elapse between them. It is often very difficult to ascertain when there is the more frequent complication of a fluid *vitreous*, for although the previous history of the patient would lead to the detection of a rheumatic, a diabetic, and albuminuric complication, it would not enable us to determine a fluid state of the vitreous body, which is not unfrequently present.

Mr. Hogg then entered into the particulars of the more salient points of his cases, dwelling upon the importance of early extraction of traumatic cataract, and giving the details of three in which an early operation had been attended with excellent result, and the retention of sight. He deprecates the too ready resort to extirpation of the eyeball, even when the injury has been severe, and it is impossible to say whether or not a foreign body is lodged within the chamber. In dislocation, either from violence or disease of the suspensory ligament, where the lens becomes separated from its attachments by a violent fit of sneezing, early extraction is often needed to arrest a dangerous iritis following the accident.

Mr. Hogg considers it of much importance that the section should be purely corneal, and not carried deep enough to merge into the sclerotic. The main impediment to success, he believes to be, that the section is made too small to admit of an easy delivery of the lens. The enlargement of the section after the evacuation of the aqueous is difficult and not unattended with danger to the iris, and may cause the lens to sink below the pupillary opening. Prolapse of the iris often follows attempts to force the lens through a small section, when the iris may become entangled in its lips during the healing process. Another difficulty arises from the knife being entered too obliquely and passing into the lamellæ of the cornea instead of the anterior chamber. The author

of the paper concluded with a few brief references to the construction of the instruments employed. The knife known as Beer's being the one more generally in use at the Westminster Ophthalmic Hospital, but which, he thought, was a little too broad towards the base, and had, therefore, employed a somewhat modified form in shape between a Beer and Wenzel knife. In answer to a statement that Professor Hasner had collected 2000 cases of extraction by the modified linear operation, showing ten per cent. of failures only, Mr. Hogg stated that he fully believed if a carefully tabulated series of cases by the semi-lunar section were made in this country, it would show an equally small number of failures.

ART. 165.—*Experiments proving that the Crystalline Lens may be Regenerated in Mammals by a New Formation within the Crystalline Capsule.*

By M. J. M. PHILIPEAUX.

(*Gazette Médicale de Paris*, No. 44, 1870.)

M. Philipeaux has presented to the Society of Biology of Paris preparations that show the results of recent experiments he has made upon the regeneration of the crystalline. Although several authorities had previously proved the possibility of this regeneration in mammals, the fact had not been generally admitted. Burdach and Henle cite Leroy d'Etiolles and Middlemore as having sometimes observed the reproduction of the lens after its removal from animals. C. Mayer also made out the reproduction of this body in a rabbit upon which he had practised extraction four months before. Vrolik also observed an incomplete regeneration of the crystalline after the operation of cataract by couching—a process, however, which renders this assertion very doubtful. Other experimenters arrived at similar results, which were described by M. Milliot (*Comptes rendus de l'Académie des Sciences*, Janvier 28, 1867). In this contribution, which contained a *résumé* of the subject in question, M. Milliot gave a new and complete demonstration of the regeneration of the lens. Still, in spite of all these proofs, the fact of the regeneration of the lens is, at the present day, considered doubtful by some authorities, particularly ophthalmologists. "It cannot be admitted," states M. Weeker, "that the capsule, deprived of its contents, but left in connexion with its appendages, is fitted for supplying the elements of a newly-formed lens."

M. Philipeaux has obtained decisive results, which confirm in every respect the conclusions of M. Milliot and earlier experimenters. He took six young rabbits and practised upon them extraction of the crystalline leaving the capsule in position. The operations were very simple. After opening the anterior chamber by inferior keratotomy by means of a cataract knife, the animals being kept quiet by an assistant, he incised the anterior capsule with a cataract needle, and then by means of slight pressure upon the ball of the eye below the cornea, he forced the crystalline outwards. No dressing was applied to the eye, but careful attention was paid to the hygienic conditions of the wounded animals.

One of these rabbits was examined fifteen days after the operation; the capsule was found to be swollen, thickened, and seemed to contain even then a rudiment of crystalline tissue.

A second rabbit was examined twenty-five days after the experiment. The capsule was much thicker than that of the first animal; this thickening existing especially near the adherent margin of the capsule.

In the third rabbit, killed forty days after the operation, the thickening was much more pronounced; the thick tissue resembled that of crystalline structure, and formed a complete ring within the circumference of the capsule.

The remaining three rabbits were afterwards examined; one on the sixtieth day, another at the end of four months, and the last at the end of five months and twenty days. In these the regeneration was observed to be more and more advanced, according to the duration of the life of the animal. In the two last it was complete, or almost so: the crystalline had regained its lenticular form and, in the sixth animal, almost its normal size.

M. Philipeaux on closer examination found that the regenerated crystalline was formed of tubes, resembling in every respect those of normal crystalline. These tubes were found to be present in the early stages of the process of regeneration, and they became larger towards the termination.

For this regeneration to take place after the operation of cataract in animals, it is necessary that the position of the capsule be not disturbed, and that but a very small quantity of vitreous humour flow away during the proceeding.

Art. 166.—*Nervous Deafness—how Distinguishable.*

By Peter Allen, M.D., Lecturer on Aural Surgery at St. Mary's Hospital.

(*Aural Catarrh and Curable Deafness.* Pp. 227. London, 1871.)

In his work on Aural Surgery, Dr. Allen points out the way in which we may distinguish affections of the *sound-conducting* portion of the ear from those of the nervous (or *sound-perceiving*) apparatus. It is as follows:—"If the patient be deaf to the sounds of a watch or a tuning-fork held near (not touching) the external meatus, and yet can hear distinctly their vibrations when conveyed through the solid structures of the head, teeth, and the like, it may be inferred that some obstruction exists to the passage of sound through the meatus, membrana tympani, or tympanic cavity, but that the functions of the acoustic nerve are unimpaired. The surgeon may also assume that the conducting apparatus is in fault if the vibrations of the tuning-fork and the patient's own voice are not better heard when he closes his ears; because it has been shown by the above experiment that the closure of the meatus amplifies all sounds transmitted through the skull or interior of the mouth. It is obvious that catarrhal disease, whether of the tympanum, its contents, or its external membrane, would hinder the escape of the intensified sounds outwards through the meatus, just as effectually as

would be done by a plug of cerumen or the stopping fingers. Patients are often inclined to state that they perceive the sounds to be more audible on the side where they can best hear conversation. This is because they naturally expect it must be so; but when we explain to them the method and its important bearing upon the case, we find (should the disease be really in the conducting parts) that they will verify the correctness of our investigation by referring the increased perception of sound to the deaf ear, unexpected and surprising to them though this may be. Consequently, you may generally and safely conclude that you have to deal with a case of obstruction to the free entrance of sound into the internal ear, and not with a nervous affection, if the patient admits that he decidedly hears the vibrating tuning-fork or watch on the deaf or deafer side. Inversely, of course if the fork be heard very indistinctly or not at all when placed on the vertex, we must infer that the auditory nerve is not so sensitive to the impression of sounds as it ought to be, and that either there exists some abnormal pressure upon the labyrinth-fluid, or that the nerve itself is implicated in disease. The history of the case and further analysis of the symptoms will point out whether this condition is referable to a primary nervous affection, or a secondary one originating in the cavity of the tympanum.

Art. 167.—*On the Treatment of Perforations of the Membrana Tympani.*

By James Hinton, F.R.C.S., Aural Surgeon to Guy's Hospital.

(*Guy's Hospital Reports*, 3rd Series, vol. xvi.)

The plan to which Mr. Hinton now has recourse, and which seems to him on the whole the most successful he has tried, is a very simple one; while its results have certainly been practically better, and theoretically, he thinks, much surer and more likely to be permanent than any that he has obtained before. In the acute stage of a perforation it is inapplicable, but in almost all others it is, he believes, the most appropriate.

Having ascertained that the Eustachian tube is pervious, or, if it be not, having rendered it so by the appropriate means, if possible, and having first thoroughly cleansed the ear by syringing, during and after a free passage of air through the tube, he fills with a warm solution of bicarbonate of soda (℈j—℥j) a syringe, the nozzle of which is made large enough to close the orifice of the meatus, and is well guarded with India-rubber; and with a moderate but continued pressure, seeks to pass the fluid through the perforation and the Eustachian tube. The head being slightly bent forward, and the patient being told that he must breathe through the mouth, the fluid escapes through the nostrils without inconvenience. A very temporary giddiness, much greater if the water be either too warm or too cold, is the only ill effect he has observed. By this means, in certainly the great majority of cases, either immediately or after a few repetitions, large quantities of evidently old and more or less dense mucus are removed. In many cases these come visibly from the tympanum, and the passage of the fluid will cause masses of similar secretion to become visible about the per-

foration, and removable by the syringe, when none have been within reach or sight before. Possibly, in some other cases these masses of secretion are dislodged rather from near the faucial orifice of the Eustachian tubes, or even from the nostrils; but the stream of fluid, after escaping from the Eustachian tubes, has of course no mechanical force. Mr. Hinton's conviction from experience is, that in the great majority of cases of perforation of the membrane, where a chronic discharge has continued, large quantities of a similar discharge remain collected in the various parts of the tympanic cavity, and that the solution of soda used as described washes it bodily away. The amount of secretion, partly, at least, of old-standing, that he has thus sometime removed day after day, is enormous, and a corresponding improvement in the hearing has given testimony that it has been collected in some spot where it was injurious to that function.

This washing out of the tympanum is repeated two or three times a week until mucus in large quantities, indicating the presence of old accumulations, ceases to be brought away; using also a warm alkaline lotion to fill the ear night and morning, air being at the same time blown by the patient through the Eustachian tube. When it appears that what mucus had become condensed within the tympanum is approaching its complete removal, he adds to the solution 5 or 10 grains to the ounce of chlorate of potash, and when the removal seems complete, substitutes for it some astringent. Formerly, Mr. Hinton used chiefly the sulphate of zinc, but he found this, even in weak solutions, very painful, and has lately substituted for it alum, he thinks, without disadvantage. By using in the same way a warm solution of alum (gr. v—xx ad ℥j), an astringent effect is obtained upon the whole membrane of the tympanum, tube, and adjacent faucial region, and he has scarcely ever known the discharge fail to cease under its use repeated at intervals of three or four days; the hearing usually remaining improved. Mr. Hinton thinks under this plan he has found a recourse to the artificial membrane less frequently necessary, and that he has seen healing of long-standing perforations, and of perforations attended with unhealthy conditions, such as polypi at the edges, or great thickening or displacement, ensue, where he should not have anticipated it under any other method. The conviction, indeed, has been strongly induced in his mind that retained secretion is the chief cause of protracted mischief in all cases of this sort. To the same cause Mr. Hinton attributes the unsatisfactory results which ensue so often from simple treatment by astringent lotions.

Art. 168.—*Obstructions in the Eustachian Tube.*

By Peter Allen, M.D., Aural Surgeon to St. Mary's Hospital.

(*The Lancet*, February 18.)

At a meeting of the Medical Society of London, on January 29th, Dr. Peter Allen read a short paper, in which he described the methods most recently devised for overcoming obstructions in the Eustachian tube, especially such as result from catarrh, and also for inflating the tympanum, with the latest improvements made upon the instruments in

use for these purposes. The subject was introduced by a brief sketch of the functions of the parts intended to be influenced, the different methods hitherto adopted, and their relative value. The method particularly dwelt upon, for its high practical value, simplicity, and general efficiency, was that named after its originator, the "Politzer method," which may be shortly described as follows:—The surgeon places the tube within either of the patient's nostrils, or, with Dr. Allen's most recently improved contrivance, simply presses the nasal pad gently and firmly against them. The patient then swallows, by degrees, a small quantity of water previously taken into the mouth; and the surgeon, at each successive act of deglutition, compresses the air-bag held in his own right hand. Currents of air are thus repeatedly sent into the naso-pharyngeal cavities, driving warm air into the tympanum through the Eustachian tubes, and overcoming at once any moderate degree of obstruction in the latter. The modifications of this appliance, introduced by Dr. Allen, consist of an interior valve, enabling the acts of inflation to be repeated as often as desired, without the necessity of removing the instrument from its position; and also of the double pad placed against the nostrils of the patient, thus dispensing with the rather disagreeable and troublesome procedure of inserting the tube into the nostril. Even young children do not cry, nor are other persons frightened, at this simple and easy mode of managing inflation. It causes no pain or distress, and the results are often at once so happy as to astonish the patient.

Personal testimony was borne by one of the Fellows present to the immediate relief afforded him, when suffering from catarrhal deafness, by Dr. Allen's use of the described apparatus.

Art. 169.—*On Obstructions in the Eustachian Tubes.*

By John Pennefather, L.K.Q.C.P.I.

(*Medical Press and Circular*, March 18.)

At a meeting of the Medical Society of London, on March 6th, Mr. Pennefather read a paper on Obstruction in the Eustachian Tubes. He briefly described their anatomical construction, and demonstrated to the Society that the assertion of the late Mr. Toynbee with regard to the closure of the Eustachian ducts, except during the act of deglutition, was erroneous, and that the tubes were slightly opened on every movement of the velum pendulum palati. He condemned Politzer's bag as having no remedial power in true diseased conditions, but considered it valuable as a means of diagnosis. The obstructions it was capable of overcoming could be as readily removed by the natural appliances of the patient. If artificial inflation of the tympanum was attempted, it had better be carried out by means of an elastic tube and the surgeon's mouth, as in an inflamed condition of the mucous lining of the Eustachian tubes and tympanum, the blast of cold air delivered by Politzer's bag was absolutely injurious, though it might, for a time, relieve the deafness. Mr. Pennefather confined himself to the consideration of those forms of deafness arising from recent irritation, or inflammation of the mucous membrane, and from enlarged amygdalæ. He dissented

from those authors who contended that hypertrophied tonsils were seldom a cause of impaired hearing; close observance of a large number of cases had led him to form a contrary opinion. It was not from actual mechanical pressure of the enlarged gland, but from the impeded action of the muscles in its neighbourhood consequent on its enlargement. In the treatment of catarrhal affections in this region, he placed chief reliance on the preparations of potash, together with the internal administration of the drug; he was in the habit of applying it in solution to the nasal passages and Eustachian openings, with very satisfactory results, by means of a spray-producer, which he exhibited to the Society.

Art. 170.—*The Mastoid Process in Inflammatory Affections of the Middle Ear.*

By D. B. St. John Roosa, M.D., Clinical Professor of Diseases of the Eye and Ear in the University of New York.

(*The Medical Record*, December 1, 1870.)

Dr. Roosa thus tabulates the conditions on which interference with the mastoid seems to be indicated:—

1. The integument and periosteum should be freely divided over the mastoid in all cases in which there is pain, tenderness, and swelling in the part. (Wilde.)
2. Such an incision should also be made wherever severe pain exists, referred to the middle ear, which is not relieved by the usual means—*i.e.*, leeches, warm water, &c.
3. An explorative incision should be made when we have good reason to suspect the existence of caries in this part.
4. The mastoid bone should be perforated after such an incision wherever the bone is found diseased, or a small fistulous opening should be enlarged. It should also be perforated when we have good reason to believe that there is pus in the middle ear or mastoid cells which cannot find an exit by the external auditory canal.
5. The mastoid should be perforated in the case of a suppuration of long standing, with frequent and painful exacerbations.

Art. 171.—*Fibrous Tumours in the Lobules of the Ear.*

By C. H. Burnett, M.D., of Philadelphia.

(*American Journal of the Medical Sciences*, January.)

Dr. Burnett refers to six cases of recurrent tumours, occurring in negresses, which confirm the statement made by Tröltsch in his work on the ear, that these tumours are due to the improper treatment of the pierced lobes, and that they are usually found in negresses, more frequently in the Antilles, where the ornament worn is large and of brass.

Art. 172.—*A Peculiar Inflammation of the Lower Lip.*

By Professor R. Volkmann, of Halle.

(*The Medical Record*, December 1.)

Prof. R. Volkmann observed five times a peculiar form of chronic inflammation of the lower lip—*cheilitis glandularis apostematosa*—concerning which he finds no account in literature. All the patients were adults. Three had been suffering from constitutional syphilis a short time before. Two were quite healthy, and assert never to have been syphilitic.

The course of the cheilitis was similar in the five cases, though of different intensity. The lower lip gradually swelled, without much pain, and became hard and firm, so as to give the countenance a coarse, disagreeable expression. The mobility of the lip was much impaired; in one case lost. The swelling extended through the thickness and breadth of the lower lip, and down to its union with the chin. In one case it affected the upper lip about the corners of the mouth. The skin was slightly reddened. In all cases the mucous glands of the lip were swelled to the size of hemp seeds or more, and could be felt through the mucous membrane in unusual numbers and extent as nodular masses. Their excreting ducts were much dilated, some of them large enough to admit a fine probe. Pressure, which caused but little pain, would evacuate from them a turbid mucous or muco-purulent secretion. In three cases abscesses formed. In one case the mucous surface of the lower lip showed from twelve to fifteen fistulous openings. In all cases an active catarrh of the mouth and fauces existed. Two cases were extremely obstinate, and left hospital with little improvement; the other three were cured in from four to eight weeks by the internal use of iodide of potassium, mouth-washes of chlorate of potassa, and light cauterization of the lip. The disease being an inflammation of the mucous glands of the lip, the author proposes the names of *cheilitis glandularis* or *myxadenitis labialis.*

Art. 173.—*On the Local Treatment of the Syphilitic Affections of the Mouth, Nose, and Pharynx.*

By Professor Sigmund.

(*Wiener Medizinische Wochenscrift*, xx., 1870; *Schmidt's Jahrbücher*, No. 9, 1870.)

A main condition, as well for the prevention as for the treatment of syphilitic affections of the oral, nasal and pharyngeal cavities, is a suitable and careful cleansing of these regions. By careful attention to this, according to Sigmund, these cavities escape altogether or become but slightly affected. The best general treatment of syphilis, he states, usually attains no good results when local attention to the affected parts is neglected; and with careful local treatment, on the

other hand, a cure may be readily brought about. Syphilitic patients should be admonished to pay great attention to the cleanliness of the mouth, nose and pharynx, even when these parts are not affected; should these cavities be subsequently involved in the disease, the patients are then accustomed to the application of the necessary measures and the treatment is much assisted. When these preliminary proceedings have not been practised patients after the appearance of the local affections, are frequently unable to pay proper attention to the affected parts in consequence of their increased sensibility and of the frequently considerable pain.

The cleansing should be regularly practised in the morning, after each meal, and in the evening. For this purpose the ordinary gargles, clean water, and even, when necessary, a simple tooth-powder, are to be recommended. Great care must be taken not to neglect these proceedings in the evening, because at this time, the body having been covered during the day by foreign and generally hurtful material of various kinds, requires a thorough cleansing. According to Sigmund a complete evening cleansing of the body contributes very much to the purity of the air in the sleeping chamber.

For the cleansing of the nasal cavities the introduction of fluids generally suffices, so long as the fluid taken up can pass the back of the cavity to the pharynx, so as thence to flow away from the mouth. When one nasal passage is stopped up, or not readily passable, the patient must select the free passage first for the cleansing, and afterwards endeavour to practise the same upon the obstructed side. If the patient should not be expert at this plan, the fluid should be injected, or the nasal douche used.

For the cleansing of the pharynx, ordinary gargling is of no service, since by it, as a rule, the tonsils, epiglottis, upper part of pharynx and back of tongue are not affected, especially when the tonsils are swollen or fissured; the chief part of the fluid, with ordinary gargling, is moved from side to side along the soft palate, and by chance only reaches the deeper parts. In order to gargle effectually, so as to cleanse and moisten the tonsils, the mucous membrane of the pharynx, the epiglottis, &c., the patient should take but a small quantity of the fluid, and carry it at once to the pharynx, as if he were about to swallow it down, and then, on this coming in contact with the epiglottis should, without any special movement of the soft palate, draw it back from the upper part of the gullet. In this proceeding some of the fluid often passes to the rima glottidis, the closing of which serves as an indication that the movement of swallowing has been rightly executed.

If the mucous membrane of the mouth, pharynx, and nostrils be still unaffected, it will suffice to cleanse these regions three times in the day with some pure water. When, however, these parts present syphilitic phenomena, application of certain remedies should be made at certain times, and the patient must take care that the plan of treatment be properly carried out and as much as possible controlled.

Syphilitic erythema and follicular exudation on the pharyngeal mucous membrane are not unfrequently regarded from their commencement as a simple catarrhal affection. Their obstinacy, their frequent exacerbations, without any satisfactory external cause, and the appearance of syphilitic

phenomena at other parts, will often resolve all doubts. The same causes which particularly give rise to catarrh, often increase very considerably the inflammatory processes of syphilis, and indeed this is very markedly the case with habitual catarrhs of the nose and pharynx. These affections are most frequently met with in scrofulous and tuberculous patients, hence the reason that these present in the nose and mouth the most frequent and most severe forms of syphilis. In cases of this kind, as pure and warm air as possible, cleansing with tepid water, and the use of slightly astringent fluids, are of service. For the nasal cavity should be ordered weak solutions, and for the mouth and pharynx solutions four or five times stronger, of suitable agents; of which alum, sulphate of zinc and tannin are to be especially recommended; the last agent, as it cannot be well tolerated by many patients, may be suitably replaced by extract of rhatany, or preferably, by opium. (Extract of rhatany, 3·75 grmm.; aqueous extract of opium, 1·25 grmm.; distilled water, 360 grmm.). If the surgeon is able to restrict his application to the affected spots, bichloride of mercury is the most certain astringent he can use. (0·06 grmm. to 180 grmm. of water for the mouth and pharynx, 0·06 grmm. to 360 grmm. of water for the nose.) The cleansings should be practised with especial care in the evening and, if necessary, even during the night.

In affections depending upon erosions and ulcers, when the mucous and muco-purulent secretions possess a bad odour in consequence of fermentative, gangrenous, or putrefactive processes, the patient inspires air mixed with these products of putrefaction, and also swallows some of the foul material. In such cases Prof. Sigmund recommends solutions of the chlorate or permanganate of potash, or carbolic acid, which is to be preferred to the second agent on account of its cheapness. It is worthy of remark that tobacco-smoke, in spite of its containing supposed disinfecting products of combustion, not only does not hinder the progress of decomposition of the secretions, but actually favours it. If the patient cannot entirely give up smoking, precautionary measures must be taken to prevent bad results, and a fine sort of tobacco selected for use.

In affections of lips, especially those at the commissures, Sigmund prefers to cauterization with lunar caustic, brushing the affected places with a solution of corrosive sublimate (0·18 grammes to 3·75 grammes of alcohol). This method not only fulfils all the advantages of the former agent, but impairs the elasticity of the skin to a much less extent than any other caustic. Immediately after the application of the caustic a very thin layer of cotton-wool, or a piece of soft filtering-paper, should, for a few minutes, be placed on the cauterized spot, and the lips kept at rest for some hours, for which reason the evening seems to be the most suitable time for practising the cauterization. If the surgeon cannot apply the caustic himself, the patient may be instructed how to lay upon each sore a piece of soft blotting-paper of the proper size and form, which is dipped in the solution, and then wiped dry, and how afterwards to cover the cauterized spot with cotton-wool or blotting-paper, as above described. A solution of corrosive sublimate in a mixture of collodion and castor-oil previously used by Sigmund, though an especial useful application to the rectum, outer portion of vagina

and urethra, has no marked advantage over the former application in the case of affected lips. Superficial excoriations and papules, and also granulating ulcers, may be dressed with grey-plaster (equal parts of mercurial and soap-plaster), spread upon very soft and flexible lint. This application favours the reparation of epithelium and cicatrization, as well as the restoration of the cutaneous elasticity. The so-called white salve (hydrochlorate of ammonia, 0·72 grammes; emollient ointment, 7·5 grammes), spread out upon soft lint, has an equally good result. The success attending all these plans of treatment depends very considerably upon the precision of the application.

For affections of the gums, the application of the solution of corrosive sublimate, by means of a brush, is the most suitable plan, and, according to the results of experience, does not in the least injure the teeth. The stopping of decayed teeth, if this be not made of gold, may be loosened by this treatment, wherefore either contact must be avoided, or, if it be unavoidable, a concentrated solution of tannin should be substituted for the lotion of corrosive sublimate. It is especially necessary in affections of the gums to insist upon careful and frequently-repeated cleansing of the teeth and oral cavity, however painful it may seem to be, for upon attention to this point depends the preservation of the teeth.

In affections of the tongue, the syphilitic nature of which it is often hard to diagnose, and which often cannot be distinguished, except with difficulty, from malignant growths, the surgeon should, in the first place, direct his attention to the state of the teeth, which very frequently give rise to or intensify the disease. Above all things, sharp edges and points should be filed away or covered by wax, caoutchouc, or some similar substance. The most suitable caustic agents are nitrate of silver and bichloride of mercury, used in the above-described forms. In order to protect the neighbouring tissues, the surgeon should surround for a few minutes the cauterized spot with a wall of cotton-wool, and, in some instances, cover the tongue with thin layers of the same material. After the caustic has acted for some minutes, the mouth is to be washed out with a solution of chloride of sodium, after the use of nitrate of silver, and with sugar-water or milk after that of corrosive sublimate. In case of bleeding, perchloride of iron is to be applied. The other agents employed in solutions—as caustics on the tongue, as iodine, bromine, chloride of gold, chloride of zinc, &c.—are, according to Sigmund, far inferior to nitrate of silver and corrosive sublimate. With disease of the circumvallate and fungiform papillæ an especially careful cleansing is requisite before the cauterization, on account of the toughness of the mucus which usually adheres to these structures, and on account of the difficulty which they cause of speaking and swallowing, is it requisite to apply the agents either in the evening or some time after the chief meal. In affections about the root of the tongue examination of the diseased parts and application of lotions should be made with the help of a small mirror.

The hard palate and the anterior portion of the soft palate are easily accessible both for examination and for local treatment; the posterior portions of the hard palate, however, with the uvula, the pillars of the fauces, the tonsils, and the back part of the nasal passages, require a

close examination with a glass and special cleansing, particularly the anterior fold of the palatine arch proceeding to the back of the tongue and the tonsils. The tonsils and the walls of the pharynx are scarcely, if at all, touched by ordinary gargling, particularly when these parts are swollen and sensitive in consequence of disease. They ought, therefore, to be cleansed both from the nose and from the mouth by means of a tube. The syphilitic affections of the tonsils are difficult to diagnose, since even in relative good health considerable swelling, fissuring, partial loss, excoriations, follicular abscesses and cicatrices may frequently affect these organs and yet remain quite unnoticed. The crypts of the tonsils sometimes form extensive fistulous passages, thus constituting a persistent cause of altered secretion and of increased sensibility. If the hypertrophied tonsils are not removed, the surgeon should at least slit up these fistulous canals or cauterize them to a sufficient depth. Of the ordinary caustics Prof. Sigmund prefers to nitrate of silver or bichloride of mercury the Vienna paste, immediately after the application of which the cauterized spot is to be washed with vinegar and water. Concentrated tincture of iodine may also be applied to ulcers with good results. Tannin is applied principally as a wash after the use of caustics, or as a retaining agent after brushing over the parts with tincture of iodine. All these applications, however, may be spared if the surgeon at once removes the hypertrophied tonsils, the most certain means of alleviating and cutting short the course of syphilis in these organs.

A long-continued syphilitic affection in the soft palate, even when not very severe, may, according to Sigmund, cause reduced power of movement and reduced sensibility of this part. This diminution of mobility may, just as adhesion of the palate to the back of pharynx, render difficult a proper cleansing of the naso-pharyngeal cavity. In such cases, and especially when there is adhesion along a considerable extent, the use of the syringe or the nasal douche is indispensable. With inflammatory affections of the palatine and pharyngeal mucous membranes in syphilitic subjects, Sigmund recommends strongly the use of cold applications, and advises that tepid or warm lotions should not be used unless the patient feels that cold acts injuriously upon those organs, or until, during the use of cold applications, a period arrives at which alleviation of pain is no longer produced. Cold gargles and washes, cold drinks and ice, and cold external applications, according to Sigmund, alleviate considerably the pain and hasten recovery.

Of great value in the treatment of syphilitic affections of the palate and pharynx is frequently-repeated dusting with alum, sulphate of zinc and tannin. This should be done especially after dinner, and shortly before bed-time. For painful affections of the mouth, nose, and pharynx, Prof. Sigmund recommends as a very suitable anæsthetic, the inhalation of a mixture of chloroform and sulphuric ether, to be used two or three times in the day periodically until slight narcosis is produced.

Syphilitic affections of the nasal cavity at their commencement may easily escape observation and the patient's notice, since they give very little pain, and in their earliest stage at least can scarcely be distinguished from simple catarrhal diseases; yea, even considerable loss of substance may take place after the pathological changes producing the

same have been unnoticed. It should also be considered that many parts of the nasal cavity cannot be observed except with difficulty, and, indeed, under some circumstances, are quite inaccessible. Here a careful cleansing is very necessary and useful, and for this purpose injection or the use of the nasal douche is to be recommended. It generally suffices for this purpose to use simple warm fluids to which may be added when there is much sensibility opium or morphia. In cases where the secretion has a foul smell, solutions of chlorate of potash, permanganate of potash and phenic acid are very useful. In cases of simple catarrhal syphilitic erythema, and, perhaps, papules of the mucous membrane, the above-mentioned measures suffice, together with the injection of a solution of bichloride of mercury, applied twice in the day. In softening gummata a solution of iodide of potassium and tincture of iodine form suitable means both for cleansing and healing, to which, moreover, may be added, when practicable, the application of a caustic. All portions of destroyed tissue must be removed as rapidly and completely as possible; especially when the bones are affected, a condition which is commonly associated with a profuse discharge of a sanious secretion, is repeated and careful cleansing emphatically indicated. In cases of the formation of abscess and erysipelas prompt and thorough removal of pus is requisite, and with the latter affection, an energetic antiphlogistic treatment.

Contraction and adhesions, in consequence of the cicatrization of the ulcers and shrivelling contraction of the tissues, are not rare occurrences, and may frequently present an extremely high degree of severity. Prof. Sigmund mentions a case of a man in whom the passages of a depressed nose were almost entirely closed, and whose mouth was scarcely large enough to admit a body of the size of a hazel-nut; the proper tissue of the lips had been extensively destroyed, and the sunken funnel-shaped mouth was bound down to the scarcely moveable jaws. Slight degrees of such adhesive changes are generally amenable to operative interference, and loss of substance may be often repaired by plastic proceedings, although most frequently relieved by a compensatory apparatus.

As with syphilitic affections of other parts, so with those of the nose, mouth, and pharynx, one cannot enforce too energetically well-regulated hygienic measures. In addition to the above-described proceedings as to cleanliness, care must be taken to supply the patient with good air and a suitable diet, since indeed by these the oral, nasal, and pharyngeal cavities are directly affected. Before all things, Prof. Sigmund warns against the use of tobacco, not on account of the local irritation only, but also because of the impregnation of the atmosphere with tobacco-smoke.

Art. 174.—*On the Treatment of Suppurating Glands in the Neck by frequently repeated Tapping.*

By Lawson Tait, F.R.C.S., Birmingham.

(*British Medical Journal*, February 4.)

Suppurating glands are common enough in the experience of every one, and the routine treatment of cod-liver oil, iron and quinine, iodine

and poultices, is seldom departed from. Differences of opinion exist as to whether they should be opened early or late, or not interfered with at all; but, whichever way this part of the treatment is conducted, the same unsatisfactory ending in a disfiguring cicatrix is the inevitable result. The "look" of the thing is bad; and from the popular notion that every scar on the neck indicates "scrofula," many a poor mother's life has been embittered, many a poor child's prospects seriously interfered with, owing to the ineradicable neck-mark. This objectionable condition may be avoided in very many cases by the careful perseverance in a plan of treatment which Mr. Tait has adopted for some years, with most satisfactory results. It consists simply in tapping a gland as soon as it is ascertained to contain pus, and in continuing this treatment until the cavity no longer secretes. The means by which he effects this, is the little instrument known as Dr. Alexander Wood's morphia-syringe. Only two precautions are necessary; and these are, never to introduce the needle twice at the same spot, and to introduce it very obliquely into the abscess, entering it at least half an inch from the margin of the tumour. As a rule, the direction must be from behind forwards, but occasionally it may be done from before backwards; and it almost always may be effected from above downwards, or from below upwards. He has had to persevere till he has made as many as fifty punctures, at intervals of from one to ten days, before the treatment was successful, the success being constituted by the complete disappearance of the tumour, without the skin ever breaking. The amount of satisfaction which the patients have expressed at being saved the disfigurement of a gland-mark, he has often found to be ample repayment for the great amount of trouble.

Art. 175.—*The Treatment of Suppurating Glands of the Neck.*

By John Murray, M.D., Assistant-Physician to the Middlesex Hospital.

(*British Medical Journal*, February 11.)

Dr. Murray suggests that more consideration should be shown by practitioners to the simple plan of drainage than is, he believes, the custom. In the case of a girl recently under his care, with several enlarged cervical glands, one of which, as large as a chestnut, had already suppurated, Dr. Murray passed at once two silk ligatures through the tumour by means of a needle, and tied the free ends. The mother was directed to keep the openings patent by moving the ligatures a little twice or thrice a day. In a week the tumour had much diminished, a considerable quantity of pus having been discharged. He then introduced, in place of the silk sutures, one of Professor Lister's cat-gut ligatures, soaked in carbolic oil, which answered the purpose admirably. This was removed in three or four days. A fortnight after the first visit, the abscess had ceased discharging, and the needle-wounds had healed. The part was then painted with collodium flexile.

Art. 176.—*Treatment of Bronchocele (Goitre) by Electrolysis and Subcutaneous Injection of Iodine.*

By Adolphe Wahltuch, M.D., L.R.C.P.

(*Medical Times and Gazette*, January 21.)

Dr. Wahltuch records a case of a young lady who had suffered from bronchocele for four years, and had used iodine internally and externally without experiencing relief. Dr. Wahltuch at first ordered bromine internally and externally, and as there appeared to be no change, he commenced, on July 14, 1869, the electrolytic treatment, beginning with eight Daniell's elements and the insertion of one needle, and gradually increasing to sixteen Daniell's elements and the insertion of four needles, at first twice a week, then once a week till January 5, 1870—in all twenty-eight times.

The mode of operation was the following:—He inserted the needle, connected with the negative pole of Althaus's permanent battery, into the tumour, and closed the circuit by placing a moistened sponge connected with the positive pole to the skin of the neck. He allowed the current to act at first for ten minutes, and at subsequent operations gradually increased the time to fifteen, twenty, thirty, forty-five, and sixty minutes. The tumour after each operation became softer, and began to swell; the enlargement continued for twenty-four hours, after which the tumour gradually subsided to a size below its original dimensions. After the twenty-fourth operation (November 24, 1869), the tumour had diminished to the size of a hazel-nut, and consisted of the right lobe alone (the left and middle lobe having been reduced to their normal size). The four succeeding operations, performed weekly till January 5, 1870, did not produce any marked change, although he used sixteen elements, three needles, and permitted the current to pass for an hour each time.

Dr. Wahltuch stopped all treatment for six weeks, during which time the size of the tumour remained unchanged. He therefore adopted another form of treatment—viz., the hypodermic injection of iodine tincture into the enlarged right lobe of the thyroid gland. He at first injected one minim of tinctura iodi diluted with nine minims of distilled water, then two minims with eight minims aqua; then five minims with five minims aqua; then pure iodine ten minims, increased to fifteen minims, and lastly to twenty minims (making two injections of ten minims in two separate places). In all, he operated sixteen times from February 19 to July 20, 1870 (fortnightly till May, after this once a month), by which date the tumour had disappeared.

The pain from insertion of the electrolytic needle was very slight; after the first application the patient felt sick, but never afterwards. The traces of the puncture soon disappeared, and permitted a fresh insertion of the needle.

The hypodermic injection of iodine never caused either pain or suppuration, with one exception; and on this occasion the evil effects were produced by a bend at the end of the injection-needle. Small and diluted doses had no effect, but after the injection of larger doses (fifteen to twenty minims of pure iodine tincture) the result was remarkable.

Art. 177.—*Three Cases of Bronchocele Successfully Removed.*

By W. Warren Greene, M.D., Professor of Surgery in the Medical School of Maine.

(*American Journal of the Medical Sciences*, January.)

Three cases are reported by Dr. Greene, in which bronchoceles, that from their size had become not only an incumbrance to the patient, but absolutely dangerous to life, had been successfully removed. In one of these the tumour had been present for twenty-six years, but had only recently taken on rapid growth. Its dimensions were such that the common carotid was pressed behind the posterior edge of the sterno-mastoid muscle, whilst the trachea was pushed over to the left side. Any attempt to swallow or talk produced terrible spasms of dyspnœa. The patient was unable to lie down, and required constant watching during her broken sleep, lest she should die of suffocation. She suffered from headache and giddiness, and could not stoop without losing consciousness. She gladly accepted the proposal of an operation for its removal. She was etherized, and a single straight incision was made over the tumour, from the inferior maxilla to the clavicle. The anterior external jugular vein, which ran close by the line of incision, was not injured. The sterno-mastoid, which was spread over the mass like a thin ribbon, and the several fasciæ, were successively divided upon a grooved director. The thin veins in and upon the surface of the tumour proved extremely troublesome, and severe hæmorrhage occurred. The areolar attachments were rapidly separated, till the pedicle was reached. In this were three large arteries, immediately recognised by their pulsation. These were quickly separated from each other by the fingers, and each portion of the pedicle tied with eighteen strands of saddler's silk, loosely twisted. All hæmorrhage ceased at once, but on separating the tumour it was found to be firmly adherent to the sheath of vessels, in detaching it from which the internal jugular was wounded. After the removal of the tumour the vein was tied with three strands of silk, loosely twisted. For several days there was considerable irritation of the œsophagus and trachea, but this passed off, and the patient made an uninterrupted recovery. The weight of the tumour was twenty-five ounces avoirdupois. The other cases are of equal interest.

Art. 178.—*On the So-called Congenital Tumour or Induration of the Sterno-Mastoid.*

By Thomas Smith, F.R.C.S.

(*Medical Times and Gazette*, December 24, 1870.)

At a meeting of the Clinical Society of London, on December 9th, Mr. T. Smith read a paper "On the so-called Congenital Tumour or Induration of the Sterno-Mastoid." This had been surmised to be an

adventitious growth by some, and a syphilitic deposit by others. Its real nature had never been determined, so far as he was aware, by post-mortem examination. The supposed explanations Mr. Smith had reason to believe incorrect; and he thought the induration was probably due to rupture, either partial or complete, of the fibres of the sterno-mastoid, giving rise to effusion of blood within the sheath of the muscle, and to retraction of the torn fibres. Such rupture he referred to injury during parturition, especially when this was complicated by version and extraction.

Art. 179.—*On Syphiloma (Gummata Syphilitica) of the Tongue.*

By Dr. Neumann, of Vienna.

(*Allegemeine Wiener Medizinische Zeitung*, No. 5, 1870.)

The dorsum of the tongue, as is well known, is frequently at its centre or lateral portions, more rarely at the root of the organ, the seat of infiltrations—the so-called syphilitic gummatous tumours, the size, superficial aspect, and progress of which undergo many variations. These tumours, which are of firm consistency, are seated partly under the mucous membrane, partly in the muscular tissue of the tongue, and are developed from small infiltrations of the size of a pea to prominent nodules as large as a bean or hazel-nut, or even larger. The growth sometimes extends laterally, so as to form level patches; in cases of this kind a greater part of the tongue, especially its edges, feels thickened, infiltrated and hard as cartilage. In this affection the mucous membrane covering the growth is either smooth or covered by numerous papillary growths, which occupy a large portion of the tongue in the form of broad-based warty formations, or the surface of the dorsum may be traversed by shallow furrows, or by deep fissures crossing in various directions—rhagades; or again, if the mucous membrane be irritated by the sharp edge of a decayed tooth, it may present superficial patches of gangrenous tissue.

The whole volume of the tongue is increased to a considerable extent. Finally, the disease may proceed by softening of the nodules to a more or less extensive and deep loss of substance, in consequence of which the tongue on the affected side presents large cavities, which, when the loss of substance has affected the root of the tongue, exert a considerable influence upon the consonance of the speech. The movements of the tongue, also, as in speaking, masticating, and swallowing, cause much pain.

These new formations, consisting partly of granulation tissue and partly of connective tissue—which tissue in its further development becomes either soft and jelly-like, or is converted into adipose tissue, and forms dry yellow lumps—were described by Robin and E. Wagner as syphiloma. They present granular cell contents, and their cells and nuclei lie in peculiar hollow spaces—alveolar formation.

In cases of this kind one has to distinguish the infiltration of syphilis from that of cancer.

Hardness, rapid growth, painfulness, and an uneven surface, are indeed symptoms which speak more for cancer than for syphilis; the existence, however, of a sharply defined loss of substance, and the presence on the dorsum of the tongue of warty or condylomatous growths, are indicative of gummatous deposit. In cancerous growths of the size of syphilitic gummata the submaxillary glands would certainly be enlarged. In doubtful cases the diagnosis might be determined by means of the microscope. In some cases the distinction may be indicated by the course taken by the disease. In syphilitic gummata the breaking down of the tumour commences deeply, and proceeds to the surface; in cancer the opposite takes place, loss of substance commences superficially, and gradually extends to the centre of the growth.

Art. 180.—*On Ulcer of the Tongue.*

By Professor Hebra.

(*The Lancet*, March 18.)

In the case of a woman of thirty, who consulted him for a single ulcer on the side of her tongue, Prof. Hebra said that multiple ulcers speak for syphilis, and single ones against it, and for epithelioma. The only test is to give iodide of potassium for a month, using caustic applications to the ulcer at the same time, if thought fit. He ordered ten grains of the iodide twice a day. The patient had no syphilitic history, and no enlarged lymphatic glands.

Art. 181.—*Report of a Case of Syphilitic Ulceration of the Larynx.*

By John Morgan, F.R.C.S.I.

(*Medical Press and Circular*, February 8.)

At a meeting of the Surgical Society of Ireland, on January 20th, Mr. Morgan exhibited a specimen of ulceration of the larynx occurring in a patient who had died a few days previously. According to the patient's account she had been infected ten years ago. She then got suppurating buboes, the groins at the time of her death bearing the marks of the cicatrices. The remarkable feature of the case was, that she never had any rash on the skin nor any prominent features of venereal taint. Within the last two or three years she had been continually under his observation, and there were no appearances presented but remarkable growths of a condylomatous nature on the groins. The labia were hypertrophied, and there was a difficulty in diagnosing whether the growths as delineated in the drawing (which was exhibited) were of a chronic syphilitic or of a malignant character. They existed in the condition, represented by the drawing, for two and a half years. He tried

everything except mercury, but without avail. The unfortunate creature got ulceration of the larynx and died gradually exhausted. The ulceration, as depicted, extended to the epiglottis which was more or less eaten away, thence it extended downwards until it reached the chordæ vocales, which it destroyed. The heart presented nothing peculiar, and the body was not excessively wasted. This woman might be supposed to have been free from taint, as for many years none of the ordinary features of syphilis appeared upon her body. It would seem, in such cases, that whenever this disease localized itself in the genitals, the other parts of the body escaped with comparatively little evidences, a peculiarity he had observed in several instances, one of which was then, it so happened, in the hospital.

Art. 182.—*Clinical Remarks on Stricture of the Œsophagus.*

By James Paget, F.R.S.

(*The Lancet*, January 7.)

Two cases of stricture of the œsophagus, produced by the action of corrosive fluids which had been swallowed some time previously, came recently under the care of Mr. Paget, at St. Bartholomew's Hospital, and remained for a time in his wards, while, to prevent ultimate closure of the tube, the patients were instructed in the art of passing bougies through the strictured portions.

With reference to these cases Mr. Paget made some interesting remarks on the diagnosis and treatment of stricture of the œsophagus, in the course of which he explained his views of that particular form of stricture which is usually denominated "hysteric" or "spasmodic." It was, he said, the homologue in the pharynx or œsophagus of that want of harmony between the organs of speech and respiration which produces stammering; and appeared to depend on a want of perfect concert between certain involuntary muscles and muscles under the control of the will, which are designed to act in harmony. In the latter case the muscles of respiration do not act in time and unison with the organs of speech; in the former, instead of the normal contraction of successive portions of the upper part of the alimentary tract from above downwards, which transmits the food regularly from the mouth to the stomach, there occurs an unruly contraction of certain fibres, which, as long as it continues, bars the passage of food as completely as if some permanent obstruction existed. The degree of this contraction varied in different cases: in some it only compelled the patient to take his meals apart, or inconvenienced him whenever his attention was in any way directed to the act of swallowing; while, in others, it produced contraction so obstinate and complete that the maintenance of life by means of gastric digestion was wholly prevented. In these extreme cases recourse must be had to enemata; and, as in all other cases where nutritive materials have to be supplied to the body for more than three or four days by the introduction of food into the rectum, it would be found necessary to make use of something more than beef-tea and

brandy, and, by injecting preparations containing fats, starches, sugars, and vegetable, as well as meat juices, to supply all the ingredients which are contained in a natural diet, and are essential to the building up of the various tissues of the body. Of the fact that vegetable juices could thus be effectually introduced into the system, he had recently had very satisfactory proof in the case of a patient with whose nutritive enemata had been mixed some of the essence of water-cresses, proposed by Mr. Wyatt: at the end of a few days the patient had begged that the quantity of the essence might be diminished, because the flavour of that vegetable in his mouth had become so strong and so constant as to be extremely disagreeable.

(B) CONCERNING THE TRUNK.

ART. 183.—*A Case in which an Hydatid Cyst of the Right Kidney was Mistaken for an Ovarian Cyst; Extirpation; Death.*

By Dr. OTTO SPOGELBERG.

(*Archiv für Gynækologie*, Bd. i. 1870, p. 146.)

The patient, aged forty-two years and the mother of six children, the youngest being three years and a half old, had noticed for fifteen months in the right lumbar region a tumour which had gradually increased in size and which had attained about six months previously the same volume which it presented at the time of her admission. The menses had been arrested; there was emaciation and but little pain.

State on Admission.—The patient thin, and of medium height. In the abdomen was a tumour of about the size of the adult head, hard, elastic, with irregular contour, moveable from side to side, and manifestly fluctuating at its superior part. On the right side of the abdomen this tumour reached almost as far as the last rib. The results obtained by percussion were similar to those of an ovarian tumour. The intestines were placed behind and by the sides of the tumour, which came in contact on the right side with the anterior wall of the abdomen, and passed over for a short distance into the left half of the cavity. In the pelvic region in front there was a small zone, which was tympanitic on percussion—a condition frequently met with in cysts of the ovary. The tumour sent down into the interior of the pelvis a prolongation which he readily felt and moved by the vagina. There was complete prolapse of both walls of the vagina; the uterus was depressed and deviated to the left side when replaced. The tumour rested upon the fundus of the uterus, though its movements were independent of this viscus. The remaining organs were healthy. No changes in the urine.

Operation.—On June 27th, 1867, an incision of about eight centimetres in length, and reaching to within four centimetres of the symphysis pubis, was made in the middle line of the anterior abdominal wall. The cyst then protruded between the lips of this wound. There was a slight discharge of peritoneal serosity. On puncturing the cyst there was a discharge in a full stream of clear, colourless and perfectly

limpid fluid, which at once aroused suspicion of an error in diagnosis. It was impossible to withdraw the cyst, in consequence of its adhesions in all directions with the intestines. The omentum was found in front of the superior intestinal convolutions. The intestines were then carefully separated from the tumour, several vessels having to be tied during this proceeding. In order to judge definitely concerning the seat and starting point of the cyst—for it seemed as dangerous to discontinue as to complete the operation after the intestinal convolutions had already been separated over a considerable extent—an incision of the length of the finger was made into the sac; this gave exit to two hydatid membranes, and it was then found that the cyst was united with the mesentery of the large intestine, and with the cæcum on the right side and with the small intestine on the left; the superior part only was free. It was now evident that the growth had had a retro-peritoneal origin, and not less evident that it ought to be removed. In order to separate the mesentery it was necessary to divide several vessels, most of them very large and nearly all venous. It was always necessary to tie both ends, and not the smallest incision could be made without great prudence. Finally, the sac was detached from its adhesions, except at a small part seated above and to the right side, where could be felt in the cystic wall a thick parenchymatous mass, containing a great number of large vessels. It was then perceived that this mass corresponded to the right kidney. In order to conclude the operation the cyst was divided longitudinally, and its base was brought forward to the anterior abdominal wall, when the left half was ligatured and then excised. By drawing down the remaining half of the cyst on the right side, the kidney could be examined, but it was found impossible to remove this organ, in consequence of its close adhesions to the intestines, and the presence in these adhesions of very large and very abundant vascular branches. The parenchyma included in the sac was tied in three portions and cut away with the cyst; the part of the kidney which remained was placed at the superior angle of the incision. After all the ligatures, twenty-two in number, had been cut away, the clots removed from the abdomen, the intestines cleansed and returned, and the mesentery replaced, the abdominal wound was closed by means of four deep metallic sutures and five superficial sutures passed round needles. The ligatures of the kidney were brought out at the upper angle of the wound. The operation lasted for one hour and a half, the patient being under the influence of chloroform during the whole period.

When the patient had recovered from the effects of the chloroform, the pulse was 100 and full; the face was pinched, and there was much thirst. On the following night there was severe pain in the abdomen. Death twenty-six hours after the operation.

The fluid of the cyst, when examined by Prof. Waldeyer, two days after the operation, was found to contain numerous echinococci which were still living. The external wall of the incised cyst was found to be composed of a thick membrane of connective tissue. The removed portion of renal substance constituted the superior part of the right kidney; it was four centimetres in length, three centimetres in width, and one centimetre in thickness. Thence arose the wall of the sac, very thin at this part, and covered by the supra-renal capsule, which was

here thickened. The substance of the kidney had the consistence almost of leather. The connective tissue appeared to be increased in amount; the uriniferous tubes, however, were preserved.

Autopsy twenty hours after death. The intestines in the right side were covered by effused blood; the ascending colon was entirely separated from its peritoneal covering and presented numerous remains of ligatures. There was about a pint of thick bloody serosity about the cæcum; the base of the cyst, at which part the principal ligatures were found, was composed of the inferior segment of the right kidney. The ureter was separated from the retro-peritoneal connective tissue over an extent of eight centimetres; the branches of the renal vessels were intact, the spermatic vein was found tied, the vena cava was covered on all sides by connective tissue. The cut surface of the kidney was found to be softened, there was a great number of small ecchymoses under the capsule; the duodenum was not surrounded by peritoneum, and, like the ascending colon, was covered by patches of ecchymosis; the mucous membrane of that portion of the large intestine which had been involved in the operation, was of a dark brown colour and presented ecchymoses here and there. The uterus was retro-flexed, and deviated to the left side; on its right side was a small polypus; the right broad ligament was longer than the left; the ovaries were atrophied.

"The error in this case," writes Prof. Spogelberg, "was the more deplorable as the patient would certainly have lived for some time in a very tolerable condition. I regret very much that an exploratory puncture had not been previously made, as this would have led me to avoid the operation; it would have afforded absolute certainty of the existence of hydatids, and, consequently, dispelled the idea of any ovarian origin of the disease, for those parasites rarely affect the ovaries. The reasons which may be given against an exploratory puncture in cystic tumours do not weigh against the great security which this proceeding affords; its very negative results have great value. All the signs given by Mr. Spencer Wells for distinguishing cysts of the ovary from those of the kidney have little value, except they exist in combination or in great number; neither the position of the intestine in relation of the tumour, nor the examination of the urine, nor the general condition of the patient are sufficient; that tumours springing from the kidney may be as moveable as hydropsies of the ovary is proved by this case; moreover, the mobility of an ovarian tumour is not always distinct. The seat of the development of the tumour is an evident point of difference, but who can recognise this at the period when patients usually decide upon consulting a medical man?"

Art. 184.—*Practical Remarks on Stone.*

By W. F. Teevan, F.R.C.S.

(*The Lancet*, Dec. 24, 1870.)

At a meeting of the Medical Society of London, on December 12th, a paper was read by Mr. Teevan. Its title was "Practical Remarks on

Stone, with an analysis of twenty-four cases." Mr. Teevan stated that he had operated on twenty-four patients, twelve boys and twelve men. All the former and five of the latter were cut, and the remainder lithotritized. All the patients, except two, recovered. One, aged sixty-six, died five weeks after lithotomy, and the other, aged seventy, died suddenly from heart-disease, whilst straining in passing a fragment. Lithotrity ought always to be performed, where possible, in adults in preference to lithotomy. He had been obliged to resort to lithotomy in the cases stated, on account of the great size of the calculi. A large phosphatic stone might be crushed with safety, if the patient was strong and not old. Lithotrity in old men ought to be performed in a number of very short sittings, so as to necessitate only a day's confinement to bed in each week. Lithotomy, as at present practised, was founded on erroneous principles, and was fraught with much injury to the patient, as it usually destroyed his virility by occluding the ejaculatory ducts. Median lithotomy was unjustifiable, for it was attended with the largest mortality, and lacerated the floor of the prostatic urethra. The external incision ought to commence low down in lateral lithotomy, as less vascular parts were wounded thereby, and the stone ought to be extracted through a very free internal incision. The so-called process of dilatation was, in reality, complete rupture and laceration, and ought to be abandoned as unsurgical and dangerous. A very short rectangular staff was best, with a groove continued on the vertical part for one inch. The sound ought to have a beak only half an inch long. The left forefinger was the best instrument for extracting stone from boys, and, in adults, a simple polypus forceps ought to be used. A tube after lithotomy was a gratuitous irritant. Mr. Teevan concluded by exhibiting the various calculi he had removed or crushed.

Art. 185.—*Lithotomy in Girls.*

By F. H. Marsh, F.R.C.S., and Thomas Smith, F.R.C.S., at the Hospital for Sick Children.

(*The Lancet*, Dec. 17, 1870.)

The following is the fourth instance in which the operation of lithotomy has been performed on the female subject at this hospital; it is gathered from the notes of Dr. Stephen, registrar to the hospital. The other three cases, of which we give below a short review, were under the care of Mr. Thomas Smith.

Case under the care of Mr. Marsh.—The patient was a girl three years of age, and on admission was found to be well nourished. She passed urine frequently, and complained of pain in so doing, and was observed frequently to rub the external genitals. On the introduction of a sound, a stone of apparently large size was detected; it could also be felt from the rectum. No deviation from perfect health had been observed in the child till a year previously; her micturition then began to become frequent and painful, and latterly these symptoms were much more marked, and she had contracted the habit of rubbing the private

parts. During the last four months she had had prolapsus ani. Her urine was described as being thick, and at night was passed in bed.

The patient having been placed under chloroform, a staff was introduced by the urethra, and the vagina being dilated by means of a Sims' speculum, the posterior half of the urethra was divided with a small tenotomy knife. The stone was then seized with a pair of polypus forceps and brought into view, but it was found necessary to enlarge the opening slightly on either side before it could be extracted, although its smaller diameter was presented to the opening; it was found to be about an inch and a half long, and about half an inch in the transverse diameter. For a few hours after the operation the urine was bloody, and a few clots were passed; the pulse was 144°. Two days after the operation the patient was reported to have slept well each night, and to have taken her food with good appetite; her temperature was 98·6°; the urine, which she passed in bed, was quite clear.

Cases under the care of Mr. Thomas Smith.—The first was operated on in October, 1864. The patient was thin, pale and haggard. For twelve months she had suffered pain during micturition; she passed water frequently; it was free from blood. For five months previously she had had prolapsus ani. In this case the stone was about two and a half inches in length. It could be plainly felt from the rectum, and appeared to completely fill the cavity of the bladder at the time of the operation; the perineum becoming very tense during the extraction, the vaginal orifice was slightly enlarged at the fourchette, and, as the posterior wall of the bladder was drawn forwards with the stone, a further incision was carried from the orifice of the urethra, about half an inch towards the os uteri. Two silver sutures were inserted, one through the perineal incision, another through the vesical. The stone was extracted between them, and then they were tightened so as to close the incisions. A portion of the stone adhered to the fundus of the bladder, and was separated with some difficulty. No bad symptoms followed the operation. Eight days afterwards the patient could hold her water for more than half an hour. On the sixteenth day she could retain it for an hour, and the sutures were withdrawn. Three months later the child returned with a vesico-vaginal fistula, of which the edges were pared and brought together on two occasions, and in two months more she was discharged well.

The second case was operated on in April, 1865. The patient was five years old. For six months she had cried at every effort at micturition, and was in the habit of pressing her hand to the parts. Incisions were made in the urethra and in the fourchette. The stone was phosphatic, and weighed two drachms and a half, and was withdrawn without injury to the hymen. In a week's time the child had recovered complete control over the bladder, and, before another week, was discharged well.

The third case was admitted in May, 1869. The child was ten years old, and well nourished. For two years she had complained of pain during micturition, and had been in the habit of pressing the hand to the perineum while voiding urine. The stream was sometimes full, sometimes a dribble, and sometimes stopped altogether for a time. The urine was sometimes offensive, always thick, but had never contained

blood. The stone lay against the posterior wall of the bladder, and could be felt from the rectum. An incision was made in the fourchette, and another, against a grooved staff, through the anterior wall of the vagina, behind the urethra. Four sutures were passed into the vaginal, and three into the perineal wound. The perineal sutures were removed on the tenth day, the vesico-vaginal sutures on the seventeenth; union was complete, and scarcely a trace of the incision remained.

Art. 186.—*Hernia Simulating Bubo.*

By Francis W. Moinet, M.D.

(*Edinburgh Medical Journal*, March.)

Dr. Moinet records the following case, on account of its peculiarity, and as showing the difficulty there was in the first instance of forming a correct diagnosis:—

Mr. P——, aged twenty-three, whom I was called on to see on the 12th of January last, complained of a small swelling on the left groin, which had commenced about a week or ten days previously, and according to his statement, it had come on gradually. It occasioned uneasiness and slight pain in walking. On examination, the tumour felt like an enlarged gland; it was slightly moveable, but no neck could be made out. There was no impulse on coughing, and it could not be reduced. Bowels were quite regular. In this case, although there was no history of venereal taint, he had been taking a great deal more walking exercise than usual for some time, and he told me it had appeared some months ago when he was in training for running, but had gradually disappeared without anything having been done for it; so I formed, I think, the not unnatural opinion that it was simply an enlarged gland, and treated it accordingly, by painting it with iodine liniment.

Two days later when I saw him, I found the tumour increased in size, and distinctly fluctuating on pressure. This confirmed me in my opinion, and left no doubt in my mind as to the nature of the swelling; so I opened it freely and evacuated some pus, but not so much as I expected from the size of the tumour, and was rather surprised that, although diminished, the swelling did not altogether disappear; but I thought that perhaps the whole gland substance had not suppurated, but was only partially destroyed, so poultices were applied. He went on well for a few days, still the swelling remained much the same, and did not seem to have diminished any. On the 18th he was hot and feverish, his pulse was about 120, and there was redness and swelling extending upwards towards the abdomen which was painful on pressure, evidently suppuration was extending. This I could not understand or reconcile with the opinion of its being a bubo; so I extended the incision, put in my finger, and to my surprise found a piece of omentum firmly fixed and adherent in the femoral canal; so at last the mystery was solved. Another abscess formed, which was opened, and as the piece of omentum was firmly adherent on all sides, it was judged best to leave it alone, as it would thus effect a radical cure, and prevent any further descent of

the abdominal contents. This was done; the incisions are now healed up, still the swelling remains. However it does not seem to cause any inconvenience, as he is able to walk quite freely, if it should, the next proceeding will be to cut it away.

Art. 187.—*On the Radical Cure of Hernia.*

By A. Vans Best, M.D., F.R.C.S., late Surgeon, Bengal Army.

(*The Lancet*, March 4.)

The simple operation which Dr. Best recommends requires neither the invagination of the parts nor the use of plugs or buttons, whether of india-rubber or split shot. The steps of the operation are these:—

He uses a rather long-handled flat nævus or hæmorrhoid needle, well bent (quite a semicircle from shoulder to tip of $1\frac{1}{2}$ in. diameter), not too wide, and sharpened on both sides from one-third of an inch from the point. A fine hole is drilled for the passage of the ligature, a quarter of an inch from the point. This needle, with a plain dissecting forceps and strong salmon-gut, is all that is required for the operation.

In the first place, chloroform must be fully administered, the hernia reduced, and the thigh adducted and flexed. The finger, as usual, is introduced *quite within the internal ring*, carrying the integument in front of it up the canal, while the assistant draws the skin of the abdomen firmly over towards the opposite groin. The threaded needle is then passed close to the finger, a small piece of wax having been moulded on its point (instead of a canula); the handle of the needle is raised, and the point pushed through the internal pillar and the abdominal parietes close within the internal ring. The portion of gut on the convex side of the needle is seized by the forceps of the assistant, and the needle, still threaded, withdrawn through all the structures except the temporarily invaginated skin. The finger being carefully maintained *in situ*, the gut on the concave surface of the needle, is slightly pulled by the assistant, while that already seized is firmly held; this facilitates the turning of the needle and transfixion of the outer pillar (Poupart's ligament). This being accomplished, the skin of the abdomen is drawn towards the crest of the ilium, and the needle passed through the original aperture, unthreaded, and the finger and it withdrawn. There is, therefore, one scrotal and one abdominal aperture—the latter directly above the aperture of exit of the hernia. Nothing now remains but to tie firmly home the two ends of the salmon-gut, cut it short, and let it drop into the wound. A pad and spica bandage are applied, a dose of opium is given, and the patient kept in bed until the parts are well matted together. The knot of salmon-gut will either become encysted or come away, it matters little which; in either case the approximation of the pillars is certain. It is satisfactory to the operator that the assistant should pass his finger up to the internal ring, when he can distinctly feel it grasped as the ligature is tightened. It is absolutely necessary that the salmon-gut should be soaked in warm water for five

minutes before being used, and that long round threads should be selected. The needle should be threaded from the concave side.

Dr. Best has at present performed this operation only three times—twice with complete success. The unsuccessful case occurred in the European General Hospital in Calcutta, where the patient, a sailor, leaped over several beds within a week after the operation, and reproduced the hernia.

Dr. Best suggests that this operation should be employed when a very large ring exists, so that its space might be diminished, and that the protrusion might thus be brought under command of an ordinary truss.

In the three cases on which he has operated he has had no hæmorrhage. One was to all appearance a direct, the others examples of external inguinal hernia.

Art. 188.—*On Intra-Vesical Hæmorrhage.*

By Dr. Bourdillat.

(*Gazette Médicale de Paris*, No. 10, 1871.)

"*Diagnosis.*—Effusion of blood into the bladder cannot always be readily made out at the time when it commences. Generally its presence is not manifested until some hours afterwards. Then pain at the extremity of the penis, in the hypogastrium and perineum, and over the kidneys, the expulsion with pain and scalding from the urethra of clots of blood, and finally a spherical tumour in the hypogastrium, all of which are the habitual symptoms of intra-vesical hæmorrhage, at once put the surgeon on the right track.

"There are, however, circumstances in which the diagnosis is attended with great difficulty—for example, when there is no external flow of blood. Cruveilhier has alluded to a case of lithotomy performed by Dupuytren in which the operation was followed by rapidly fatal internal hæmorrhage. The assistant who was charged with the surveillance of the patient, observing no flow of blood from the wound, remained a tranquil spectator of a state of prostration which in the course of a few hours ended fatally.

"An error has been made even in cases where there was an external flow of blood, as is proved by the following case, which occurred in the practice of M. Pelletan:—A patient, after the operation of lithotomy, was entrusted to the care of his dressers who did not observe the hæmorrhage which was taking place. M. Pelletan found the patient lying in a mass of clots.

"M. Boyer has taught that internal hæmorrhage may sometimes be confounded with peritonitis. Pelletan stated that the retention both of urine and of blood in the bladder may cause nausea and vomiting, similar in character to those arising from inflammation of the abdominal viscera, and that he had observed many instances of these symptoms occurring after lithotomy.

"The error of not recognising an intra-vesical hæmorrhage is by no means an innocent matter. Death may be the consequence of a delayed diagnosis.

"*Prognosis.*—The prognosis of intra-vesical is not wanting in gravity. It frequently ends in death from retention of urine. If it does not rapidly result in a fatal termination from complete anuria, the state of repletion in which it keeps the calices of the kidneys, soon leads to frequent fatal inflammation of these organs which in the subjects of calculi are already much diseased. Pelletan, Larrey, and Phillips have given it as their opinion that intra-vesical hæmorrhage may also be the starting-point of inflammatory affections of the bladder and the peritoneum.

"Roux thought very seriously of this affection. 'When one thinks,' says he, 'of all the manœuvres which have been devised for arresting hæmorrhage from the bladder, it is not astonishing that the patients are exposed to great danger.'

"The prognosis acquires exceptional gravity when the bleeding follows the extraction of a calculus. The depth at which the vessels are placed, and the extent of their laceration, render illusory those hæmostatic measures to which the surgeon has recourse in cases where the source of the bleeding is less deeply seated.

"*Treatment.*—A great number of means have been directed, either singly or collectively, against intra-vesical hæmorrhage. The special object of some is to arrest the progress of the hæmorrhage by suspending the flow of blood; others have been applied to act directly upon the already formed intra-vesical clot.

"The means of the first order comprise position, cold applications, medicated drinks, the ligature, cauterization with the red-hot iron, direct or indirect compression, plugging by means of Dupuytren's canula or other applications of a like kind.

"The means of the second order are catheterism, injections, aspiration, finally direct extraction with the finger or curette. One might add to these the administration of large quantities of fluid, recommended by some authors with the aim of increasing diuresis, and thus favouring the dissolution of the clots. This plan, however, is one of doubtful utility, and its management at all times necessitates much prudence. The warm baths recommended by Baudin are spoken of only that their employment may be condemned.

"*Position* —In order to favour the flow of urine and to avoid the retention of blood within the bladder, Bell recommended placing the patient on an inclined plane in the dorsal decubitus, and with the thighs separated. Deschamps considered these precautions useless on account of spasm and the rapid coagulation of the blood. I do not agree in this opinion, and consider that separation of the thighs is especially an excellent preventive measure against retention, particularly in stout subjects.

"*Cold applications.*—These render good service. There are many ways in which they can be applied. Sometimes they consist in compresses of cold water or some astringent lotion applied to the abdomen, the perincum, and the thighs; at others in cold and prolonged irrigations.

"The former of these methods was employed by Deschamps with advantage.

"Ruggiero Centaro of Barletta, had recourse with success to external applications combined with cold injections into the bladder, on a man,

who about four hours after the operation of lateral lithotomy presented symptoms of internal hæmorrhage. This surgeon repeatedly injected iced water into the bladder, and applied over the hypogastrium cold compresses. The coagula were expelled, and the hæmorrhage arrested. The injections were repeated during two hours, and the compresses continued until the fourth day. The patient recovered without any subsequent alarming local symptom.

"Begin has related a case in which, after having practised plugging without success for an abundant hæmorrhage, which came on four days after lateral lithotomy, he had recourse to cold irrigations applied continuously to the perinæum, sometimes into the wound, sometimes to its edges and the adjacent parts. As soon as the injections had been applied, the vesical spasm was relieved, and the bleeding diminished in proportion; next, the effusion of blood ceased.

"*Medicated drinks.*—Hæmostatic agents of this class do not differ from those which are applied to all hæmorrhages in general. They are perchloride of iron, alum, rhatany, acidulated water—in short, the class of astringents. As in the majority of traumatic hæmorrhages, these agents are not of great service. One ought not, however, neglect to resort to them in the majority of cases, particularly as their employment is attended by no inconvenience.

"*Ligature.*—Deligation of the vessels is very difficult to perform, by reason of the depth of the bleeding vessel and the narrowness of the wound. In cases of this kind the needle devised by Deschamps will be found very useful. Larrey insisted much upon the necessity of these ligatures. In many cases where the ligature could not be applied with success, Roux decided upon deligation of the internal pudic artery. The varied origins, however, of the vessels of these regions, and their numerous anastomoses, would seriously reduce the good effects which might seem to be derived from this proceeding, and would always be a powerful obstacle to its employment.

"*Cauterization with red-hot iron.*—Begin has related one case, in which, after it had been found impossible to seize the bleeding vessel, the actual cautery was applied along the course of the wound.

"*Direct and indirect compression.*—Direct compression, practised by means of the finger introduced into the wound, cannot be considered as a methodical proceeding. It constitutes but a temporary means until the surgeon can have recourse to a more energetic plan. As much may be said of compression of the two internal pudic arteries, which was practised by Deschamps in two cases. In the first case, in which the transverse artery had been wounded, compression was kept up for several hours. In the second case, a large branch of the pudic artery had been divided; the principal trunk was compressed against the tuberosity of the ischium. In spite of this compression, which was prolonged for more than twenty-four hours, the internal hæmorrhage persisted. In this, and also in the former case, the hæmorrhage was finally treated with success by catheterism and repeated injections.

"Indirect compression by the rectum is not only an insufficient, but likewise a dangerous, proceeding. Deschamps proved that the first effect of compression by the rectum was to prevent the outward flow of blood and urine from the bladder.

"*Plugging.*—This method has always been in much favour with surgeons. It is generally practised by means of a canula *à chemise*, which is surrounded by a compress arranged in the form of a parachute, into which is introduced a sufficient quantity of charpie to compress the bleeding surface. The urine flows away through the straight piece of catheter in the centre.

"Plugging is often efficacious where the hæmorrhage comes from an artery in the perinæum. But it does not act so well when the artery is deeply seated—as, for example, near the neck of the bladder. All those who have had recourse to this method know how difficult it is to apply pressure in this case to the bleeding vessel. It is a means which is not always harmless. Vidal de Cassis held that it might prove a cause of irritation and suppuration. It is also one of the most active causes of effusion of blood into the bladder, since, for example, when the bleeding vessel is still patent above the plugging apparatus, the cavity of the bladder is the only receptacle into which the blood can be poured. If such an accident should have occurred, and the surgeon have recognised it from the usual symptoms of internal hæmorrhage, the apparatus ought at once to be removed, and the clots removed from the bladder by the ordinary means. It sometimes happens that the blood collected in the bladder is forcibly thrust outwards by the contractions of this viscus so as to carry away the plugging apparatus. Deschamps and Begin have each cited an example of this curious reaction.

"Before passing to the consideration of the means more particularly applicable for eliminating products effused within the bladder, we have to discuss the important question whether the presence of coagulated blood in the bladder always presents inconveniences, and if we ought at once and in all instances to free this organ from its contents? In the majority of cases, I hold that we ought to remove the blood; but there are circumstances in which the coagulated blood forms at the mouths of the divided vessels a kind of plug, which constitutes a powerful hæmostatic agent. Again, the presence of blood need not be feared if it causes no marked disturbance in the exercise of the urinary function. This contra-indication is especially presented when there is a solution of continuity in the walls of the bladder, such as may be caused, for example, after the removal of a calculus by lithotomy.

"*Catheterism.*—This is the most simple method, and one that occurs at once to the surgeon's mind. It was recommended by Chopart, and by a great majority of the surgeons who have written on these subjects. In two cases Desault withdrew with the catheter one pint of sanguinolent and fœtid urine, and completed the treatment by frequent injections into the bladder.

"Nothing at first sight seems simpler than this proceeding; one has only to pass a catheter into the bladder in order to fulfil all the indications. But there is one point to which it is necessary to pay attention in order to avoid failure. In a certain number of cases the bladder is lined by a thick layer of coagula too consistent to be caught in the eye of the catheter; if the extremity of the instrument then does not pass beyond this layer no fluid is evacuated, and all the symptoms of retention persist. It is necessary, therefore, to pass the catheter in deeply, so that it may reach the urine or fluid blood contained in the lining of

coagulated blood. For this purpose the preferable instruments are pliable catheters pierced with numerous orifices. The flexibility of the instrument prevents those lesions of the walls of the bladder that may be produced when the surgeon is obliged to carry the catheter very far. Catheters made of vulcanized caoutchouc are very useful in cases of this kind. Some authors, Desault in particular, recommended retention of the catheter. Catheterism repeated as often as may be necessary is generally preferred.

"*Injections.*—These are employed either for moderating the hæmorrhage or for removing the foreign material contained in the bladder. They are applied directly through the urethra, or through a catheter passed into the bladder. They should be applied gently and in small quantities. Their temperature should vary according to the indications for their use. If the extravasation of blood continues, cold water may be used. If the flow of blood has been suspended, warm water should be preferred, as this will more readily soften the clots. The time during which they should be continued will vary in different cases. In one case Rigal kept up cold injections for several hours. But this was an exceptional case. Injections employed without stint are dangerous. The injected fluid is frequently retained in the bladder by the thick layer of coagulum which occupies the lower part of the vesical cavity. Dilatation of the organ and the symptoms of retention are thus intensified. This serious complication may be avoided by using two perforated catheters and pushing them far into the bladder, one tube serves for conducting the injection into the bladder, the other for returning it more or less charged with sanguinolent débris. The large opening necessitated in lithotomy for the passage of the stone will permit, at least for a time, this double introduction.

"*Aspiration.*—This method, which is very rarely employed, consists in the application of a syringe to the extremity of a catheter previously introduced into the bladder, and then in drawing upon its piston. Deschamps states that this proceeding, in his own practice, was attended by insurmountable difficulties. The canula was so much choked up by clots that the piston could not be drawn. Moreover, this method might prove dangerous by causing injury of the walls of the bladder, and thus perpetuating the vesical hæmorrhage.

"*Direct extraction.*—This may be practised in many ways. Boyer passed his finger deeply into the wound and almost as far as the bladder; he then broke down the clots, and endeavoured, by subsequent injections, to remove the mass of effused blood. Deschamps used the curette. Rigal also employed this instrument with success in a case of internal hæmorrhage, and then administered very cold injections in order to excite very powerful contractions in the bladder. In order to prevent a return of the hæmorrhage a current of cold water, acidulated by the addition of vinegar, was sent into the bladder for two hours through a catheter introduced by the urethra.

"Direct extraction is especially indicated, and can be readily applied in cases of hæmorrhage following the sub-pubic operation for the removal of stone. In one instance Hutchinson made use of a dessert-spoon, with which he removed a pint of coagulated blood from the bladder. The method of direct extraction has been reproached with a

tendency to cause renewal of the hæmorrhage, and to irritate the walls of the bladder. My opinion of it is this, that when practised with prudence it may render service in some cases, where other more simple means have proved insufficient.

Art. 189.—*On Excision of the Mamma.*

By Joseph Bell, M.D.

(*British Medical Journal*, December 31, 1870.)

At a meeting of the Medico-Chirurgical Society of Edinburgh, on December 7th, Dr. Joseph Bell read a paper on excision of the mamma. In it he directed attention specially to two points :—1. The absolute necessity of complete excision not only of the whole tumour, but the whole breast, and the various forms of incisions by which this might be best managed; and 2. The question of granting or refusing operation in cases where the axillary glands also were affected. He strongly supported the advantages of giving the patient the chance of an operation in cases where the skin was not infiltrated, the constitution not evidently affected, and the tumour of slow growth, even where glands were affected. The whole of the diseased contents of the axilla must be carefully dissected out, the cortical fibres of the great pectoral muscle divided if necessary; the whole line of lymphatics through which the infection had passed from breast to axilla must also be removed.

Art. 190.—*Strangulation of Intestine by a Solitary Band.*

By John Gay, F.R.C.S.

(*The Lancet*, February 18.)

At a meeting of the Medical Society of London, on January 29th, a case of great surgical interest was related by Mr. Gay, the President. It was that of a man in whom strangulation was reduced by a process of kneading. The man was twenty-seven years of age, and phthisical. For two years he had suffered from sudden attacks now and again of pain to the right of the umbilicus, vomiting, and intestinal obstruction. He used to go to bed, and after a while get up well. He went on in his last attack for a week with the usual symptoms, and then Mr. Gay saw him. He was low and depressed, vomiting stercoraceous matter. There were no symptoms of the more common causes of obstruction, and the diagnosis was made of constriction by a band. The man would not consent to an operation, and so Mr. Gay got two men to hold the patient with his head downwards, whilst the belly was kneaded from below upwards *quoad* the body, the bowel being directed backwards from the supposed band, whose seat appeared to be indicated by the one painful spot about the umbilicus. The vomiting at once ceased; the belly remained tender, but by and by got more comfortable; the patient

asked for food very soon, his bowels acted, and he got well. The man subsequently died of phthisis, and by no way whatever could a post-mortem be obtained. Mr. Gay said that the diagnostic points of strangulation by a solitary band are as follows:—An antecedent history of some disease of the mesentery or bowel, the band being the result of the deposit of reparative lymph; the occurrence of symptoms pointing to the right side as the seat of constriction, and at about twenty-five years of age; and the absence of any symptom of intussusception, such as tenesmus, or of tumour.

Art. 191.—*Note on the Radical Cure of Small Encysted Hydrocele of the Testis or Cord.*

By Furneaux Jordan, F.R.C.S., Surgeon to the Queen's Hospital; Professor of Surgery in Queen's College, Birmingham.

(*British Medical Journal*, January 7.)

In a small encysted hydrocele of the cord especially, and in small encysted hydrocele of the testis, the cyst-wall is very thin, and it is very difficult to inject iodine, because when the fluid has escaped it is impossible to feel sure that the canula still remains in the collapsed sac. In such cases Mr. Jordan has found the following remedy a perfectly efficient one:—An ordinary surgical needle is threaded with ligature-silk well moistened with tincture of iodine; the hydrocele being lifted up and isolated by the fingers, the needle is readily passed through the cyst, the wet thread following it. The moment the needle has passed through the cavity, its fluid escapes. If the finger be pressed on the sac, and the thread at the same time be drawn gently through it, its interior becomes thoroughly saturated with iodine: the thread may be drawn through and removed immediately, or, as Mr. Jordan prefers, it may be left for an hour or two; the result is not uncertain.

Art. 192.—*Some of the Functional Derangements of the Male Genital Organs.**

By W. F. Teevan, B.A., F.R.C.S., Surgeon to the West London Hospital, and St. Peter's Hospital, &c.

(*Medical Press and Circular*, March 22.)

After a few preliminary observations, Mr. Teevan commenced by referring to the *abnormal erections* of infancy. No child was too young to have such erections, which were always caused by some local irritation, as gravel, calculus, very acid urine, prolapse of the rectum, phymosis, skin diseases, worms, hæmorrhoids, &c. All children who were forced to

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* Read before the Harveian Society.

lie on their backs, through hip-joint disease for instance, suffered from erections of considerable duration each morning, through the long-continued pressure of urine on the most sensitive point of the bladder. Children of the well-to-do classes were much more likely to be sufferers from some irritation of the genital organs than those living a natural life in the fields, hence they ought to be carefully watched and guarded against falling into bad habits. Children who had tight foreskins ought to be circumcised early in life, and the operation would save them from many evils.

Mr. Teevan referred to the defective domestic arrangements at boys' schools, and detailed those precautionary measures which would, in his opinion, prevent lads becoming addicted to self-abuse. When a boy had once contracted the habit of masturbation, it was difficult for him to break himself of the practice. The surgeon could greatly assist him by blistering the penis or circumcision.

During the period of youth one of the most common functional disturbances was a frequency of *nocturnal emissions*. Young men were often greatly alarmed by the sudden appearance of emissions, and the mental anxiety, rather than the seminal loss, was the cause of their weakness and great depression. These emissions could be entirely kept in check by drachm doses of the tincture of the sesquichloride of iron.

Regarding the occurrence of *emissions in married men:* this was of common occurrence, and resulted usually from marital excesses, and was an indication of debility and irritation. These cases were more difficult to cure than the former, and, in addition to general treatment, the application of weak solutions of the nitrate of silver to the orifices of the ejaculatory ducts would be necessary, and a course of sea-bathing would tend to confirm the cure.

Discharges of semen during defecation.—Most men at some period or other of their lives discharged small quantities of semen and prostatic fluid during straining at stool. When, through constipation there was much pressure put on the vesiculæ seminales, or if through indigestion the seminal fluid had become attenuated, then the muscular fibres surrounding the vesiculæ and their ducts could not resist the powerful contractions of the levator ani, and therefore no alarm need be felt regarding these manifestations, as they would entirely disappear when the constipation or indigestion was removed.

Diurnal Emissions.—These were of serious import and were sometimes caused by the slightest physical or mental excitement. Suppositories of camphor, opium, and belladonna were very useful in these cases, but the local applications of the nitrate of silver would be necessary to effect a cure.

Lethargy of the Sexual Power.—Vigorous young men who have led active athletic lives sometimes complain of both want of desire and power. Phosphorus, cantharides, and ergot of rye, would be of use in these cases, combined with a life of ease and travel.

Art. 193.—*Treatment of Gonorrhœa by Local Means.*

By Thomas Hill, M.D.

(*Richmond and Louisville Medical Journal;* and *Medical Record.*)

Dr. Hill treats this disease in the following manner:—He injects the urethra every half-hour with cold water for about twelve hours, keeping a cloth wet with cold water applied to the parts. After the inflammation seems to be partially subdued, he uses the following:—℞ Acid. carbolici, gtt. v to x; glycomæ, aquæ, āā ʒss. M. This to be used three times in the twenty-four hours. He says: "I have yet to see the patient, who followed these directions, who was not entirely relieved in three days. I look upon the recumbent position as absolutely requisite. If any internal remedy is necessary, a good dose of Epsom salts is the best. If the scalding of urine is very severe, a teaspoonful of sodæ bicarb. will be found very effectual."

Art. 194.—*On the Treatment of Gonorrhœa.*

By Dr. L. Gottlieb Kraus.

(*Allgemeine Wiener Medizinische Zeitung,* No. 5, 1871.)

"The management of gonorrhœa in the male differs considerably from the therapeutics of the same disease in the female. In the male, gonorrhœa may attack either the glans penis or the urethra. The treatment of gonorrhœa of the glans, balanitis, balano-blennorrhœa, is not as a rule attended with much difficulty; in the majority of cases very careful cleansing and the frequent application of tepid water or weak lead lotion will suffice to dry up the troublesome secretion. In obstinate cases a very useful application is charpie saturated with a more or less concentrated solution of sulphate of zinc or copper, or of nitrate of silver; or the affected glans may be brushed over with one of these solutions.

"In the treatment of urethral gonorrhœa attention to diet is of great importance; the patient's manner of living in cases of this affection requires strict regulation. Strong drinks and irritating food must be forbidden, and likewise all sexual excitement; movement must be restricted as much as possible. Dancing and riding are particularly injurious. The wearing of a suspensory bandage and the application of iced compresses are of great service; care should also be taken to keep the bowels gently relieved.

"The indications fulfilled by the special treatment of gonorrhœa are to remove the excessive secretion from the mucous membrane, and the other troublesome symptoms caused by the specific inflammation.

"In this, as in other forms of acute inflammation, the application of iced compresses is very beneficial, since by this the pain during micturition, the painful erections, and pollutions, are most effectually subdued. Of less service in relieving the pain during micturition is the internal

administration of oleaginous mixtures with narcotic agents, although the latter cannot be dispensed with in cases where the patient is restless. Injections of oil of hyoscyamus, with or without a narcotic, may be tried, as they are sometimes very useful. Lupulin and bromide of potassium have been recommended in many quarters for the relief of painful erections and pollutions, but these agents are very uncertain in their action. Camphor acts much more effectually against the above disorders. In a case of extremely painful erections with considerable chordee, which were fearfully intensified by the injection of a weak solution of alum, the patient was completely and permanently relieved by a subcutaneous injection of morphia in the pubic region. Should retention of urine occur in the course of an attack of gonorrhœa warm hip-baths are indicated; if these do not speedily attain the desired end, a catheter must be passed.

"For the purpose of reducing excessive secretion from the urethral mucous membrane there is no more rational method than that of applying injections, although indeed the beneficial action of balsam of copaiba cannot be overlooked. The latter remedy assists most advantageously the action of injections, and in all cases where these cannot be prescribed, as with strangury, epididymitis, &c., its administration is of great utility. I have recently made many trials of the much-extolled tincture of digitalis. As is self-evident this drug can be used only in the acute stage of urethral gonorrhœa. Five drops of the tincture were given three times daily until the pulse was retarded, and the sensibility of the iris evidently lessened. The inflammation of the urethra was evidently restrained by this treatment, but this result can be brought about more quickly and with less danger by iced compresses. The other affections accompanying gonorrhœa were not affected by this drug.

"Matico, which has been much extolled by the French, is ineffectual, and with regard to cubebs I can give no satisfactory report.

"When the inflammatory phenomena have disappeared the surgeon should have recourse to injections; according as the solution is more or less concentrated it acts as a caustic or astringent agent. Caustics are no longer used, for besides causing severe inflammation of the urethral mucous membrane, destruction of epithelium, ulceration of the mucous membrane, and consequently acute pain during micturition which may extend to ischuria, their results are not so favourable as to justify one in subjecting the patient to such danger.

"As astringent injections the surgeon uses sulphate and acetate of zinc, basic acetate of lead, crude alum and tannin. The most frequently used agents are alum and sulphate of zinc, as these act rapidly, mildly, and cause but little irritation, do not soil the patient's linen, nor change the colour of the urine, and finally, are not costly. Of the two alum is to be preferred to sulphate of zinc. The most suitable proportion is about one grain to one ounce of water, the solution being seldom increased to twice this strength, but generally by the addition of one-third or one-half of the original quantity of the salt. Other agents used for injections in gonorrhœa are proto-iodide of iron, nitrate of silver, and caustic potash. Lue recommends injections of a solution of starch both for acute and chronic gonorrhœa; by this agent, it is said,

the development of stricture is prevented and the absorption of the mucous secretion favoured. According to my experience of this form of injection presented in several cases of acute gonorrhœa, its use is not attended with the slightest result, and has no influence upon the inflammatory symptoms."

Art. 195.—*Permanganate of Potash in the Treatment of Gonorrhœa and Gleet.*

By Philip Miall, M.R.C.S., Surgeon to the Bedford Infirmary.

(*The Lancet*, January 7.)

For the last four years Mr. Miall has used permanganate of potash as an injection in gonorrhœa. Though not an unfailing remedy, it has been so far successful that he continues to use it among other modes of treatment. In the acute stages, if injections are applicable, it is, he thinks, inferior to acetate of lead; in the third, or chronic stage, it will often cause a speedy cure, and is one of the best injections. It has often cured long-standing cases where "everything has been tried." In gleet it will frequently be found of service. Mr. Miall's prescription has generally been a drachm of Condy's solution mixed with a pint of water.

Another correspondent of the *Lancet* states that a few days ago a patient came to him, suffering with an obstinate gleet, which he had had for two months. Different remedies had been tried, and failed to effect a cure. Permanganate of potash (four grains to the ounce) was ordered to be injected four times a day. After having used it three times, the patient came to him, saying it caused such great pain that he could not use it. The discharge was now considerably increased, and the glans penis and prepuce very much swollen and hot. The permanganate was then reduced to half the strength (two grains to the ounce), and continued for four more injections, when he could get the patient to use it no longer, on account of the great pain it caused.

Art. 196.—*Cause of Gonorrhœa.*

By W. A. Hammond, M.D.

(*Medical Press and Circular*, December 7, 1870.)

Prof. W. A. Hammond, of New York, in his "Lectures on Venereal Diseases," asserts his belief, which he supports by cases, that gonorrhœa may be introduced either by the virus of hard chancre, or by the virus of soft chancre, when the chancrous matter has been deposited for a certain length of time upon the mucous surface, without any abrasion being present, or without any chancre following. Vaginitis and urethritis may be induced by other causes, but true gonorrhœa owes its origin to the contagion of chancrous pus alone. He also believes that the gonorrhœa induced by the matter of a hard chancre will be followed by and may impart constitutional syphilis, just as if a chancre had been present. Dr. Hammond's opinions in this respect coincide with those

of Hunter. The experiment of Ricord appeared to have finally decided the question that gonorrhœa was incapable of producing syphilis, and that they were totally different disorders. But the conclusions arrived at by Dr. Hammond are:—

"1st. That the virus of an infecting chancre, when deposited on a secreting mucous surface upon which there is no solution of continuity, may give rise to gonorrhœa unattended by chancre, but which is syphilitic in its character, and capable of producing constitutional disease.

"2nd. The matter of such a gonorrhœa is capable of causing an infecting chancre, either by natural or artificial inoculation, which chancre is followed by constitutional syphilis."

Similar propositions are made about soft sores.

The observations and practical remarks of Mr. Morgan, of Dublin, confirm very much these observations. His experiments prove that the product of inoculation from a vaginal discharge in a constitutionally infected woman is the characteristic pustule and non-infecting chancroid sore, which is capable of propagation in this form from one individual to another; indeed, it seems pretty certain that contact with a gonorrhœal or vaginal discharge in a case of constitutional infection may produce a gonorrhœa or a soft sore if there was any abrasion of surface. Thus, a soft sore is not very unusually associated with gonorrhœa derived from the one contact; but the conception of gonorrhœa and a hard sore is very rare indeed.

Art. 197.—*Treatment of Orchitis.*

By M. Given, M.D., of Louisville.

(*American Practitioner, and Medical Record*, April 1.)

Dr. Given has been in the habit, where he has cases of orchitis early, of directing cold alum-water to be constantly applied over the testicles, and the following veratrum mixture to be given:—Balsam copaiba, sweet spirits of nitre, paregoric, āā one oz.; Norwood's tinct. of veratrum, one dr., mix. Dose, a teaspoonful. The best results follow this practice. Where the disease has existed for a longer time, and the testicle is much enlarged and very painful, the mixture is given; but instead of the alum water he uses the following: belladonna leaves, aconite leaves, muriate of ammonia, āā one oz.; hot water, a pint; mix. This is to be constantly applied by means of cloths to the parts. Dr. Given has often seen this treatment act promptly.

Art. 198.—*Treatment of Orchitis.*

By Jonathan Hutchinson, Surgeon to the London Hospital.

(*Medical Times and Gazette*, April 22.)

In that form of orchitis in which the epididymis, body of the testis itself, the tunica vaginalis, and the cellular tissue of the scrotum are all

involved, gonorrhœa, Mr. Hutchinson states, is the most common cause. In these cases, the effusion is usually serum only, and a speedy and complete cure by absorption may be expected; but in exceptional instances, suppuration may occur in the cavity of the tunica vaginalis, and in others, still more exceptional, in the body of the testis itself. Gonorrhœal orchitis almost always subsides spontaneously, and without any permanent damage to the gland; all that is necessary is to keep your patient in bed, to purge him freely, and apply ice to the part. Now and then, however, the severity of the inflammation may be such as to threaten abscess, or even to cause gangrene.

When the pain is intense, and when it persists in spite of the use of ice, Mr. Hutchinson believes that the practice of incisions is not only safe, but very valuable. Some surgeons are in the habit, even in ordinary cases of gonorrhœal orchitis, of seeking to relieve tension by making one or more punctures into the tunica vaginalis, or even into the testis itself. He believes that we may accept the results of their experience as proof that such punctures seldom do any harm; to most of us, however, they scarcely appear to be necessary. In recommending incisions, he is speaking rather of the exceptional cases in which abscess is threatened; and in looking back on his own experience, he is certainly inclined to regret, respecting several cases which he remembers, that he did not make incisions earlier. A free incision into the tunica vaginalis leads to no ill consequence whatever, excepting the inconvenience of suppuration of the sac; and if it happens that pus is let out the relief is immense. A free incision through the tunica albuginea into the testis itself does not lead to gangrene of the testis, nor always even to fungous protrusion. When the testis is swollen, it appears to relieve pain, much with the same certainty that iridectomy does in acute glaucoma, and Mr. Hutchinson's impression is that it is likely in critical cases to diminish the danger of gangrene on the one hand, and of consecutive atrophy on the other.

Art. 199.—*On the Subcutaneous Injection of Bubo.*

By Dr. Werthheim.

(*Boston Medical and Surgical Journal.*)

Dr. Werthheim, attached to the syphilitic and skin department of the Rudolph Hospital, Vienna, states that he has given up all attempts at dispersing buboes by causing their absorption, and now treats them by subcutaneous injection. Solutions of morphia, camphor, sulphate of copper, &c., may be used as circumstances require, but muriate of ammonia (gr. iv, aquæ ʒij) is that which is usually preferable. The ripe abscess is punctured by means of a thick needle, or the tube of a strong Pravaz syringe. After most of the pus has been gently pressed out, the injection of eight or ten drops of the solution is practised, the patient being taught himself to empty, every three or four hours, the fluid that may have collected. The injection is at first repeated daily, and afterwards at longer intervals. Although not essential, it is better

for the patient to keep in bed. The advantages of this method are that the pain of the abscess almost immediately ceases, and the other inflammatory symptoms steadily diminish; the thickened pus is gradually transformed into a thinner fluid; gradually decreases in quantity; no cicatrix remains; formation of pus is confined to the gland, and surrounding inflammation gradually diminishes.

Art. 200.—*On the Treatment of Stricture of the Male Urethra.*

By William Stokes, Jun., M.D., Surgeon to the Richmond Surgical Hospital.

(*Dublin Quarterly Journal,* February.)

In this paper Dr. Stokes discusses the various methods of treatment he adopted in a hundred cases of stricture of the male urethra, and mentions the particulars of some of those cases which presented features of special clinical interest. The hundred cases were treated in the following ways:—

1st. Gradual dilatation.
2nd. External urethrotomy.
3rd. Internal urethrotomy.
4th. Forced dilatation.

Of these cases, seventy-six were treated by the first, four by the second, twelve by the third, and eight by the last method. It will thus be seen that the great majority of them were treated by the gradual dilatation method, and in doing so, the author employed many and various instruments for the purpose, as, for example, metallic and gum-elastic catheters and bougies, and those composed of laminaria, wax, vulcanized india-rubber, papier-mâché, the French "bougies olivaires," and "bougies à boule," also the combination of the elastic bougie and catheter, which he terms the double-length bougie catheter, an instrument which he has found of great service in the treatment of some difficult and complicated cases of stricture. But for the treatment of ordinary uncomplicated cases of stricture by gradual dilatation Dr. Stokes unhesitatingly gives the preference to the French "bougies olivaires," and "bougies à boule."

There are some warm advocates for the treatment of stricture by laminaria bougies, but there is one very grand objection the author has to them, which is, that owing to the dilatation of the laminaria beyond the seat of the stricture, the difficulty in withdrawing the instrument is, in most cases, very great, and is generally attended with considerable pain. There can be no doubt that, although the treatment by gradual dilatation is the slowest, it is unquestionably the surest and safest method, and the one which, judiciously carried out in practised hands, is least likely to be followed by relapse.

Art. 201.—*Urethral Fever following Catheterism.*

By W. Mitchell Banks, F.R.C.S.E., Lecturer on Anatomy in the Liverpool School of Medicine.

(*Edinburgh Medical Journal*, June.)

The following are the chief points to which Mr. Banks draws attention in this paper:—

1. That a careful distinction must be made between true urethral fever and pyæmia resulting from operative interference with the urinary passages.

2. That urethral fever is due to shocks propagated by the sympathetic nervous system; and that if certain recent views as to the etiology of ague be correct, a considerable analogy can be shown to exist between the two diseases.

3. That urethral fever may assume any degree of intensity, from a rigor and subsequent general *malaise*, to such serious prostration as may end fatally after some days.

4. That occasional rare cases occur where the nervous shock is so profound, even after the simple introduction of a bougie or catheter, that death may result within twenty-four hours, and that these cases are comparable to such as are sometimes seen in other fevers, particularly scarlatina and typhus, where the patient sinks almost before time has been given for the distinctive characters of the disease to show themselves.

5. That renal disease, with its resulting vitiated condition of the blood, probably predisposes to such cases, but that the suppression of urine which occasionally accompanies them, though it must assist in producing, is by no means necessarily the *cause* of death, and does not, as a rule, give rise to symptoms of uræmic poisoning.

Art. 202.—*Remarks on the Pathology and Treatment of Stricture.*

By W. F. Teevan, B.A., F.R.C.S., Surgeon to St. Peter's Hospital.

(*Medical Times and Gazette*, March 25.)

At a meeting of the Medical Society of London, on March 6th, Mr. W. F. Teevan read a paper on the Pathology and Treatment of Stricture. He commenced by defining stricture to be "any diminution of the natural calibre of the urethra, the result of the contraction of organized lymph." This, therefore, embraced all the stages of the complaint, and recognised and treated its earliest incipiency years before it was usually detected in this country. Most surgeons would say that, if in a given case a No. 10 catheter could be passed into the bladder, there could be no stricture; hence this serious pathological fact was presented to our notice—that the urethra could dwindle down to one-third

its natural calibre without so important a change being even suspected. The first symptom of stricture was the presence of a gleet of six months' duration. If in such a case the bougie à boule were used it would detect contraction. Strictures might be divided into subpubic, penile, and orificial. The division of the subpubic form into membranous and bulbous was not warranted by any facts. Of a given number of strictures, 80 per cent. were subpubic, 18 per cent. penile, and 2 per cent. orificial. Regarding the physical conformation of strictures, they might be divided, according to the sensations they imparted to the bougie à boule, into tunnel and ring strictures. All means of treatment which had not for their end the restoration of the calibre of the urethra to its natural diameter would fail to effect a permanent cure. All operative procedures had usually to be preceded, and always followed, by gradual dilatation. It thus appeared that no urethrotome or dilator could dispense with the bougie, but the bougie could do without them. Gradual dilatation by means of the French flexible bougie was undoubtedly the best treatment for the majority of strictures, as it was applicable to all cases, and was never attended with the slightest danger or annoyance. If any operation were required, it ought to be a cutting and not a tearing operation, as greater contraction followed the latter than the former. Those strictures which contracted rapidly after dilatation, or could only be dilated to a certain point, were best treated by subcutaneous division on a grooved staff. If no instrument whatsoever could be passed through a stricture, such a case ought to be treated by external urethrotomy without any guide.

Art. 203.—*Operation for the Loss of a Large Portion of the Urethra.*

By Sir Henry Thompson, F.R.C.S.

(*Medical Times and Gazette*, December 24, 1870.)

At a meeting of the Clinical Society of London, on December 9, Sir Henry Thompson exhibited a patient on whom an operation had been successfully performed for the loss of a large portion of the urethra. The man had been the subject of large extravasation of urine, distending the scrotum, and rising above the pubes, whence it was evacuated by free incisions. The resulting sloughing destroyed the skin of the penis, and a full inch of the urethra, just anterior to the scrotum. When the neighbouring parts were sound, Sir Henry, having introduced a grooved staff into the bladder, opened the urethra in the perineum, and passed a gum-elastic catheter through the wound into the bladder, and retained it permanently. He then broadly pared the margin of the wound, dissected a large flap from the side of the scrotum, and placed it in good apposition upon the raw surfaces, attaching it with silk sutures, and covering in completely the urethral wound. All the urine now flowed by catheter into a vessel, and, in a few days, firm union had taken place, except at one small spot. The catheter was changed in a fortnight, and the second one was retained for five weeks. On removing this, the perineal wound speedily closed, and a No. 8 catheter could be

passed through the entire urethra into the bladder. The patient had since learned to do this for himself. There now remained only a very small orifice, which could be readily closed by galvanic wire, or by some small plastic operation. Sir Henry dwelt upon the importance of a constant free evacuation of the urine in these cases, so as to bring about a state of quietude to the diseased passages; and for this purpose he was in the habit of insisting upon the patient acquiring for himself the habit of drawing off his water by catheter. The great bar to success, he thought, had almost invariably been the presence of urine percolating, at every act of micturition, between the fresh surfaces newly adjusted by the surgeon. The procedure adopted in the present case had been adopted on two occasions in France, by Sègalas and Ricord.

Art. 204.—*Management of Hæmorrhoids.*

By John H. Packard, M.D., Surgeon to the Episcopal Hospital, Philadelphia.

(*New York Medical Journal*, January.)

Dr. Packard says that one principle should govern us in all the palliative measures adopted in any case of piles—namely, to prevent straining. And this may be carried out in various ways. Besides the adoption of a proper diet-table, embracing simple but nutritious food, well-cooked and not highly seasoned, there are four points to be attended to. By means of medicine we keep the bowels easily moved; ʒss. or so of sulphur, mixed with cream or molasses, every morning before breakfast, will do this; or by very small doses of Epsom salts, by Vichy, Congress, or Bedford water, we may accomplish the same end. The second measure is mechanical: the patient is instructed to have made a board, with an opening about five inches wide by fourteen long, to place over the ordinary privy-seat, which allows the nates to bulge down too much; this will in a great degree prevent the protrusion of the relaxed rectum. The third is the use of astringent suppositories, to be used after each stool. He has found the perchloride of iron—gr. j., ij., or iij., made up with cacao butter—to answer best, unless the piles are inflamed, when acetate of lead is more soothing. The fourth element of the treatment is the employment of a hemispherical block of ivory or vulcanized rubber, about as large as half a billiard-ball, attached to a spring of properly-adjusted strength, and this again fastened to a belt. When in place, this supports the parts, and, in cases of great relaxation, prevents their descent in walking; the comfort thus afforded is very great.

Art. 205.—*Ligature of the External Iliac.*

By Henry Smith, F.R.C.S.

(*The Lancet*, March 25.)

The patient was only thirty-two years old, and had a large aneurism, which involved the right common femoral artery, and extended above

Poupart's ligament. It was intended to perform the operation on February 11th, but a day or two prior to that date the woman suddenly disappeared, and did not return until after another week. During that short interval the aneurism had increased very much, and had come to extend nearly two inches above Poupart's ligament. The patient complained of intense pain in the tumour and the upper part of the thigh.

Mr. Smith made a very free incision above, and internal to, Poupart's ligament, carrying it high up so as to permit the ligature of the upper part of the artery. The tendon of the oblique and the subjacent muscular tissues were freely incised, and, the handle of the knife being lightly applied, the peritoneum was exposed, and with the forefinger of the left hand was gently turned upwards and inwards towards the median line, so as to bring the artery into full view. Its sheath was opened, and the needle was passed around it well above the aneurism. No director was employed, and no vessel of any importance was wounded; in fact, the operation was of the simplest character.

In alluding to this case, Mr. Henry Smith said that, whereas the operation which Sir William Fergusson had just performed (ligature of the subclavian, see page 265) was one of rare occurrence and of a very formidable character, his own case was an example of aneurism which was not infrequent, and required an operation which, though of great magnitude, was not usually of a formidable description. In illustration, he pointed out that, in his own comparatively limited experience, he had tied the external iliac artery on six different occasions, whereas Sir W. Fergusson had performed ligature of the subclavian twice only. After minutely describing the operation, Mr. Henry Smith took occasion to warn the pupils against imagining that the operation was always as easily performed as in the present instance. It might be attended with considerable difficulty, in consequence of the presence of a large quantity of fat or of enlarged glands. He had witnessed two instances in which the difficulties were of a formidable character, and it was impossible always to predict what they might be. Great stress had been laid by some authorities upon the necessity of dividing the transversalis fascia freely upon a director, but his experience of this operation had not led him to acknowledge the importance of this precaution. He would, however, caution them to handle the peritoneum very gently while turning it on one side; for if hasty or rough manipulation were employed in that important part of the operation, the artery would be pushed up along with the membrane, and the surgeon, although seeking it in the right place, would actually not be able to find it. This accident had occurred to him whilst operating on the dead body, and once in the theatre of King's College Hospital whilst seeking for the vessel in the living subject.

The patient progressed most satisfactorily; the ligature came away on the thirteenth day, and the wound rapidly closed.

Art. 206.—*On Amputation of the Neck of the Uterus.*

By Dr. Saint-Vel.

(*Gazette Médicale de Paris*, No. 12, 1871.)

The author, after a full description of the different forms of hypertrophy of the neck of the uterus, discusses as follows the surgical treatment of this disease:—

"It is needless to insist upon the inutility of internal and local medications in cases of hypertrophic elongation, and of congenital or acquired supra-vaginal hypertrophy. Even cauterization with the red-hot iron is useless, according to M. Huguier, because its resolvent action is *nil*, and its destructive action quite insufficient. It does not cause death of tissue beyond a depth of three or four millimetres. In order to derive any advantage from this agent it is necessary to have recourse to it during an indefinite period, and with a frequency dangerous in consequence of the peri-uterine inflammation to which it exposes the patient. In the treatment of hypertrophy of the neck of the uterus, the surgeon has to choose one of two rational alternatives: the palliative treatment or the curative treatment of amputation of the neck. As the motives which influence the surgeon differ according as the hypertrophy involves the supra-vaginal portion or the infra-vaginal portion of the neck, and as the operation is not identical in the two cases, it will be convenient to make a division of the subject.

"Conoid amputation of the neck for hypertrophic elongation, in spite of the advantages which it presents, and of the undoubted success obtained with it by Dr. Huguier, has been accepted with very great reserve. Amputation is contra-indicated when supra-vaginal hypertrophy is complicated by procidence of the uterus or when the vulvar opening is much enlarged, the perineum rent, the soft parts forming the floor of the pelvis much relaxed, and, finally, when the patient has attained an advanced period of life. For the relief of the infirmity various kinds of pessary are tried, the least faulty of which are those which do no more than just keep the tumour in its place. The inconveniences of the palliative treatment have led to the substitution of different operations which by closing or contracting the vagina are intended to reduce the tumour by a natural and permanent compression. Episioraphy, inferior elytroraphy, and even elytro-episioraphy or adaptation and suture of walls of the vulva and inferior portion of the vagina, after vivifying the applied surfaces, realize but very incompletely the required result.

"These operations cannot be indifferently applied to all cases. If the woman is young and at the active period of sexual life, they may prove inconvenient by rendering conjugal relations impossible. If the elongation of the uterine neck be so considerable that the tumour cannot be reduced or retained within bounds except on condition that the womb is forced into the pelvic cavity so as to cause painful dragging and incurvation of the organ on its axis, these operations ought not to be attempted. Even although the elongation may not exceed five or six centimetres, it is necessary, in order to render the obturation per-

manent, to excise a portion of the neck before applying the suture, a proceeding which adds to the inconveniences of amputation those which may result from paring the mucous membrane of the vulva and vagina. These operative proceedings are attended by the same inconvenience as pessaries are, and the obstacle which they produce does not in all cases sufficiently resist the slow and continuous pressure of the tumour which transmits the weight and impressions of the superjacent viscera.

"Conoid amputation remains as the sole method of the radical cure of a malady which, though not compromising life, still renders it intolerable. In the cases where this operation is indicated it cannot be followed by a relapse. If a tumour projects into the vagina after ablation, it cannot be the hypertrophied neck, but is a prolapse of the uterus, and procidence of this organ, as we have already stated, ought to be considered as a contra-indication to the operation. The course of the surgeon is to be determined by considerations of a very different kind. The chief of these is the age of the woman who, if she be still young, may, health permitting, regain her sexual aptitudes, if not her fecundity. The size of the tumour should be less considered than the affections to which it gives rise. For instance, the functions of the rectum and bladder may be very seriously disturbed if the elongation of the neck, without being considerable, is complicated by retroversion or anteversion. Is not the surgeon justified in running the risks of an operation, which is without doubt a serious one, but the gravity of which it is unnecessary to exaggerate, when a young woman who has tried without any result various kinds of pessaries and bandages, can neither walk nor hold herself upright without suffering, and suffers from incontinence of urine and exhaustive metrorrhagia?

"I will allude only to some points of M. Huguier's operation, referring the reader to the memoir of this authority, and also to the work of M. Courty, for a full description of the proceeding. The surgeon detaches from the tumour a cone with the base below, leaving a wound of the shape of a hollow cone, the apex of which is directed towards the cavity of the uterus. Although the tumour be not wholly removed the uterus is still relieved of part of its burden. The necessity of carving in some way this cone in the morbid tissue demonstrates the insufficiency of the linear écraseur. In fact, it cannot be applied except consecutively to the incisions necessary for isolating the neck of the parts which surround it, and it can never give a conical form to the section. It may, however, serve under some circumstances for completing the ablation if the neck is very voluminous or very vascular.

"The operation consists of two stages, and presents two dangers for the surgeon to avoid. The neck should be amputated in position and without traction on the uterus or its ligaments. The danger to which the patient is exposed in the first stage of the operation is a lesion of that part of the peritoneum which sometimes extends extremely low posteriorly, so that it is separated from the cutting instrument by merely the thickness of the vagina. The forefinger of the left hand introduced into the rectum, and pushing forwards the anterior wall of the rectum, will indicate the limit of the recto-vaginal fold of the peritoneum. The surgeon then makes his incision into the insertion of the vagina to the neck of the uterus, the tumour having been dragged downwards by

forceps. The bistoury is removed farther and farther from the peritoneum as the sections are directed upwards and forwards towards the axis of the uterine cavity, these sections being oblique and made entirely in the hypertrophied uterine tissue.

"The danger to be avoided in the second period is wounding the bladder. A sound should be introduced into this viscus and confided to an assistant, who directs it towards the lower part of the vesical cul-de-sac in order to produce constant projection of this region. The anterior lip of the os tincæ is depressed by means of long-hooked forceps. A semilunar incision with the convexity above is made about one centimetre from the projection caused by the sound, so as to embrace the anterior portion of the neck and to join at its extremities those of the posterior incision. When the surgeon has, by small incisions, reached below the region of the bladder, the sound is removed, and by means of a careful dissection this viscus is separated from the anterior portion of the neck of the womb over an extent of from two to four centimetres in the middle, and of not more than forty or fifty millimetres at the sides, for the sake of avoiding the ureters. This having been done, the incision is directed obliquely upwards and backwards towards the axis of the uterine cavity.

"This conoidal section is accompanied and followed by bleeding. The arteries ought to be secured at once after their division. On account of the density and friability of the uterine tissue, which render difficult the application of ligatures, M. Huguier has devised some tenacula, which consist of needles which are bent backwards like hooks, and to which threads are fixed. A ligature is cast around the parts taken up in the hooked needle, the point of which is cut off below the knot; these ligatures come away about the fourth or fifth day. Secondary hæmorrhage may be prevented or restrained by means of small balls of charpie saturated with a solution of perchloride of iron, or by plugging.

"If after the reduction of the uterus and vagina it is unnecessary to have recourse to plugging, the uterus should be maintained in position by a large pad saturated with glycerine and introduced into the vaginal cavity: the dressing is then completed by charpie, compresses, and a T bandage. The dressing is removed on the second or third day, and the vagina cleansed, before its renewal, with a tepid solution of permanganate of potash. Cicatrization is generally perfected about the twentieth day. During the first few months after the operation the uterus diminishes in length and size; this reduction is due to disgorgement and to suppuration from the wound, and also to retraction of the cicatricial tissue. The cure is then a rapid one, and although, in exceptional cases, the prolapsus may be reproduced to a certain degree, this does not indicate a relapse of the lesion, but a procidence of the uterus in consequence of relaxation of the parts. When hypertrophic elongation is complicated by large cystocele and rectocele, it may be necessary to operate upon these separately, but only when the cicatrization after amputation of the neck has been quite completed. In other cases the cystocele and rectocele are so slight that the patients object to any operation.

"In hypertrophic elongation of the infra-vaginal portion of the neck the operation is simpler and less grave than the preceding one. Thus

it is more readily performed, whether the elongation be congenital or acquired, whether the surgeon has to deal with a merely obstructing tumour which acts as a cause of sterility or an obstacle to sexual intercourse, or whether he is urgently required to relieve pain and arrest exhausting hæmorrhages. In old elongations, the extent of which is from five to seven centimetres, amputation of the neck, as indicated by M. Huguier, is the only rational and radical treatment. It seems to me that the expediency of the operation is to be decided more by the affections resulting from the disease than by the extent of the hypertrophy itself. I have seen it performed by Dupuytren with success in a case of fibrous transformation with very little hypertrophy of the posterior lip of the neck, in which this lesion was the cause of frequent metrorrhagia.

"Care must be taken during the operation not to bruise or drag down the uterus. The neck being supported by a strong tenaculum or long hooked forceps, the surgeon makes a semi-circular incision behind and about one centimetre below the insertion of the vagina; the tumour is then drawn downwards, and the first incision joined by a section of the anterior portion. A curved bistoury with a long handle, or a pair of long curved scissors, will serve in most cases for this part of the operation. This mode is less painful and more rapid and certain than the application of the linear écraseur. This is an uncertain and dangerous instrument, for in addition to the painful symptoms of strangulation which are determined by the constriction of the chain, and which necessitate the administration of chloroform, it exposes the patient to the danger of wounding of the peritoneum and the wall of the bladder; two accidents which have been observed in some cases. We know that the bladder is separated from the tumour by merely the thickness of the vagina, and that, in certain patients, the peritoneal cul-de-sac descends almost to the level of the summit of the posterior lip. Moreover, to succeed in removing the whole of the tumour, it is very difficult to apply the chain of the écraseur conveniently to the neck of the uterus without compromising a portion of the vaginal walls. A recognition of this danger led M. Courty to invent a special instrument, consisting of long forceps, the branches of which are independent, so as to be introduced separately and then articulated; the hooks are curved and concave, and form by their union a kind of ring, which embraces the neck and limits the portion intended for removal. M. Courty makes use of an extemporaneous ligature, according to the proceeding of M. Maisonneuve, in preference to the linear écraseur; the flexibility of a loop of soft iron wire allows it to be placed with more precision on that part of the neck at which it is intended to make the division. Amputation by the écraseur might then be reserved for some special cases in which the tumour is large and indicates by visible pulsations that it is traversed by arteries, and where the patient presents marked signs of chloro-anæmia.

"Although it is necessary in this operation to take hæmorrhage into consideration, still the importance of the bleeding should not be exaggerated. It can always be arrested by hæmostatics, and in no single case has been fatal. It is a useful plan to apply exactly upon the bleeding surface some charpie saturated with a solution of perchloride of iron, and to plug the vagina. In cases where the hæmorrhage is

abundant, we might follow the example of M. Demarquay, and retain the plug more directly and more exactly by leaving a large-sized speculum in the vagina.

"To resume, amputation in cases of hypertrophic elongation of the infra-vaginal portion of the neck, is a radical and safe operation of no great difficulty. Its importance is great, for not only does it dry up the hæmorrhage, which exhausts the patient, but it removes the pains which radiate towards the sacral, lumbar and inguinal regions, and puts an end to the neuropathic condition accompanying these symptoms. By removing a painful obstacle to coition, it removes sterility, as has been demonstrated by cases in which women have conceived shortly after resection of the hypertrophied neck."

(c) CONCERNING THE UPPER EXTREMITY.

ART. 207.—*Ligature of the Subclavian Artery.*

By Sir WILLIAM FERGUSSON, Bart., F.R.S.

(*Medical Press and Circular*, March 22.)

On Saturday, February 18th, Sir W. Fergusson tied the right subclavian artery. The history of the case was as follows:—The patient, a man, aged thirty-five, by calling a sailor, had noticed a short time since a small pulsating swelling in the right axilla, which he attributed to a sprain he thought he remembered to have received while violently pulling at a rope, and this Sir William thought was the probable history. Since the man first came under the notice of Sir William, the tumour had very much increased in size, and in consequence of the difficulty there was in applying pressure, owing to the depth at which it was situated, Sir William determined to operate. The man was put under chloroform, and the operation performed.

Sir W. Fergusson afterwards remarked, that in performing the operation, notwithstanding he had made the primary incision a long one, yet afterwards he found, from the depth at which the artery was situated, that it was necessary, in order to enable him to manœuvre more freely, to make a small crucial incision. All the superficial tissues having been divided, including the platysma, which was strongly developed, his next object was to discover the belly of the omo-hyoid muscle, as this he regards as the most unerring guide to the artery. Some days since he examined the man in the wards, in the hopes of discovering the exact position of this muscle, the patient being a strong, well-developed man. At that examination he failed to do so, however, though he believed it was quite possible to do so in some instances. His next object was to look for the border of the scalenus anticus, and on making it out he noticed that it threw off a sort of fascia over the artery, which, together with the depth at which the vessel was situated, constituted the difficulty of the operation. Sir William believed that the depth at which the artery was placed was due to the calling of the man—a sailor—which had partly contributed to the peculiar con-

formation of the chest and position of clavicle, and partly also from the pain the tumour produced on the brachial plexus, causing the man to hold the arm somewhat outwards and upwards. The instances of failure in the performance of this operation were owing to the impossibility of reaching the artery.

The rarity of the operation might be inferred from the fact, that Sir William had only performed it once previously when a young man—about forty years ago. He concluded his remarks by saying that, from the age and good health of the man, he thought there was every prospect of his doing well.

The progress of this patient was satisfactory until the eleventh day, when he showed symptoms of pyæmia, of which he died on the eighteenth day.

Art. 208.—*Treatment of Bursæ in Front of the Wrist and Palm of the Hand.*

By Frank H. Hamilton, M.D., Professor of the Practice of Surgery in Bellevue Hospital Medical College.

(*The Medical Record*, March 1.)

A variety of plans have been suggested and practised with more or less success by surgeons, including incision, excision, injections of iodine, acupuncture, blisters, &c. Dr. Hamilton is persuaded, however, from his own experience, that no surgical interference is ever proper, except it be to open the sac freely, whenever suppuration is imminent or has already taken place. Velpeau relates that in 1822 he saw Prof. Richeraud, at the Hôpital St. Louis, open a similar tumour in a girl nineteen years old, of a strong constitution. The operation was performed with every necessary precaution, but intolerable pain and violent inflammation ensued, resulting in abscesses, and she was not out of danger until after six weeks of suffering. He adds that he has seen the operation of incision, or of passing a seton through, followed by death in several instances at Hotel-Dieu. Dr. Hamilton has seen a patient succumb to spontaneous inflammation and suppuration of the bursæ; and Mr. Tatum, in *Holmes's Surgery*, has reported a similar example. Pressure is in some cases serviceable, but generally it will be best to leave the case entirely to Nature, only taking care that it shall not be subjected to injury.

(D) CONCERNING THE LOWER EXTREMITY.

Art. 209.—*On the Statistics of Resection of the Hip.*

By M. Leisrink, of Hamburgh.

(*Archiv für klinische Chirurgie*, 1870; *Archives Générales de Médecine*, No. 10, 1870.)

The question of the advisability of resection of the hip for coxalgia, and the clinical indications for this proceeding, have recently been the subject

of an important article by M. Leisrink. The author has collected his statistics from all the known works on the subject of resection of the hip.

The detailed tables, containing a *résumé* of each case, the cause of the disease, the date and nature of the operation, the duration of the treatment, and its final result, enable one to group analogous cases and to eliminate uncertain facts in which the case appears to have been incomplete or doubtful. The following are some important conclusions that may be derived from this long and conscientious study.

After eliminating twenty-two cases, upon which it is difficult to pronounce, the statistics of resection of the hip give a total of 140 operations, which can be thus arranged :—

In Germany . .	85	18 cures.
In England . .	42	21 „
In America . .	29	14 „
In France . .	16	2 „
In Russia . . .	4	1 „

These tables, taken as a whole, give for the general mortality a proportion of 63 per cent.

If this general result be now analysed, it may be made out that the sums of the successes in the different countries can be thus arranged :— In England, 50 per cent. ; in America, 48 per cent. ; in Germany, 21 per cent. ; in France, 25 per cent.

Russia is excepted, as the statistics of this country are too scanty to possess any value. The single case of cure obtained by a Russian surgeon suffices to raise the proportion of cures to 25 per cent.

With regard to the causes of the mortality one finds the following facts, the practical importance of which cannot be overlooked :—

France, which presents the relatively largest return of failures, is a country in which patients die in greatest numbers from the immediate results of resection, particularly purulent infection. This result is unfortunately always found whenever one deals with the comparative statistics of a serious surgical operation, an evident proof that important modifications are here required in the hospital system.

Independently of these immediate causes of mortality, which carry off about 22 per cent. in the fatal cases, we find the following affections put down :—

Exhaustion	23 per cent.
Phthisis	12 „
Amyloid degeneration	$7\frac{1}{2}$ „
Relapse of the caries	4 „
Colliquative diarrhœa	3 „

The conclusion which results from an examination of these tables is one of great importance. M. Leisrink insists with reason upon the fact that a great number of coxalgic patients die from affections of the kidneys, the liver, and the lungs ; hence the necessity to act rapidly where the operation is indicated.

With regard to the duration of the disease, statistics lead to the unexpected conclusion that coxalgic patients operated upon during the

second and even the third year of the disease, furnish a larger proportion of cures than those whose affection has not lasted for more than one year. It is true that the value of these tables is reduced by the fact that they refer only to the total proportion, and not to the *ensemble* of the cases; they only prove that coxalgic patients may recover in spite of the long duration of their disease, and not on account of its chronicity. It is the same with the statistics of cures considered with regard to the condition of the diseased parts. They teach only one fact, and this is that the presence of luxation, of abscess and of fistulæ does not absolutely contra-indicate a favourable termination. The same remark holds with the discussion of the mode of operating, according as the operation is performed above or below the great trochanter, and with or without gouging of the cotyloid cavity. These differences, which are necessitated by each particular case, and which one cannot foresee, can scarcely be taken into account in statistics; still it is to be remarked that section of the femur below the great trochanter has given more favourable results than that made above this process.

When the operation succeeds, the results are, it must be allowed, very encouraging. In two only out of sixty-one successful cases was there consecutive anchylosis; in all the remaining cases the movements of the limb were regained, and in sixteen instances the patient was able to walk without any support. Here one finds better results than those given in Billroth's reports.

Such are the results upon which the author relies in discussing the indications and contra-indications of resection of the hip for coxalgia. With him this term coxalgia, vague as that of white swelling, represents a series of distinct pathological conditions, of which sometimes disease of the bone, and at others disease of the synovial membrane, is the primary cause. Here one has to treat scrofulous caries of the osseous tissue, there necrosis with consecutive periostitis. All these distinctions, which are very distinct when regarded from an anatomical point of view, are very difficult to make out in practice, but still their importance is great, for in one case resection of the hip will give unfavourable results, in another marked success. According to Leisrink, the worst cases are those in which the affection of the joint is consecutive to a primary periarthritis; here there is always a simultaneous caries of the pelvis. On the other hand, the prognosis is relatively very favourable in coxalgiæ of rapid progress, which occur spontaneously, and owe their origin to inflammation of the synovial membrane, or still more in synovitis consecutive to periostitis of the femur. Ablation of the head of the bone performed under these conditions generally gives good results.

Whatever may be the variety of coxalgia with which the surgeon has to deal, one general result that follows from statistics is to operate as soon as an abscess is formed, and before fistulæ are established. As soon as there is a conviction of the presence of pus in the joint it is necessary to act: procrastination exposes the patient to the imminence of visceral degenerations.

The following conclusions are drawn from M. Leisrink's memoir:—

1. Resection of the hip is an operation which affords chances of life, and the more so the sooner the operation is performed.

2. Resection ought to be performed as soon as abscesses form, and when one can diagnose caries of the articulation.

3. Caries of the pelvis is not an absolute contra-indication, any more than threatening pulmonary phthisis. Cases have been observed in which the lung has recovered after resection of the hip.

Art. 210.—*Treatment of Chilblains.*

By F. C. Skey, C.B., F.R.S.

(*The Lancet*, January 7.)

For this prevalent and often painful malady a perfectly safe and effectual remedy is, Mr. Skey says, obtainable in the employment of laudanum, taken internally in very small doses of from two drops for young children night and morning, up to six or eight for adults. It is in such quantities perfectly harmless, and, as a rule, will effect a cure in the course of four or five days.

Dr. George P. Rugg, in a letter to the Editor of the *Lancet*, states that he has found an excellent remedy in the new disinfectant "chloralum," for unbroken chilblains. It should be applied undiluted night and morning, using a moderate amount of friction.

The following receipts appear in the *Pharmaceutical Journal* of November 26th and December 17th:—

℞ Glycerine, ʒiij.
Tincture of arnica, moist, ʒj.
Spirit of camphor, ʒss.
Rose-water, ʒj.
To be well rubbed in, night and morning.

Dr. Dewar's Lotion.

℞ Sulphurous acid,
Glycerine, each ʒj.
Distilled water, ʒij.

℞ Lin. belladonnæ, ʒij.
Lin. aconiti, ʒj.
Acid. carbolic., ♏x.
Collodion flexile, ad ʒj.
Mix, and apply with a camel-hair brush.

The above is for unbroken chilblains; if they are broken, the lin. aconiti is to be omitted.

Art. 211.—*Excision of the Hip-Joint.*

By Moses Gunn, M.D.

(*Chicago Medical Examiner.*)

In regard to this operation Dr. Moses Gunn considers the following points to be well established:—1. The immediate risk of the operation is not great; death, when it occurs, being rarely expedited by the ope-

ration. 2. The prospects of cure are greatly influenced by age, the operation being much more successful in childhood than after maturity. 3. When the operation is resorted to, it should be freely executed, and all points of disease, either in the femur or acetabulum, completely removed. 4. A free drain upon the wound should be maintained until healing from the bottom occurs; for healing without suppuration is unattainable, even by the use of carbolic acid, and the presence of purulent accumulations greatly endangers a good result. 5. Only moderate extension during the healing process should be attempted, but that moderate extension is imperative.

Art. 212.—*On Diseases of the Knee-Joint.*

By W. Paul Swain, F.R.C.S., Surgeon to the Royal Albert Hospital, Devonport.

(*Injuries and Diseases of the Knee-Joint.* London, 1869. Pp. 252.)

In treating of certain affections of the knee-joint, Mr. Swain says:—

"I believe that these acutely painful cases of articular disease are eminently marked out for treatment by excision of the joint. As an example of this class of disease, I would refer to the following case, further particulars of which are given in the Appendix:—The patient was a young girl, aged sixteen, who was admitted, under my care, into the Royal Albert Hospital, in February, 1864. The condition of the joint on admission is correctly portrayed in a woodcut, the knee-joint being firmly fixed in the position seen. For five years she had suffered from repeated attacks of inflammation in the joint. As an out-patient she had been treated with tonics, and a gutta-percha splint had been adjusted to the limb. Upon her admission the limb was placed upon a McIntyre splint, and swung. It was also blistered, and various other applications were made. Extension in any shape or form she could not endure, and night after night her pain was so intense that no sedative procured her rest.

"On May 28th I excised the joint, finding the bones more extensively involved than I had expected.

"On November 19th she was made an out-patient, the limb being firmly anchylosed and in perfect position.

"The case in many points illustrates the propriety of excision. It came under my notice at an advanced stage, when considerable contraction of the knee had taken place. 'The influence of rest' was fully tested for several months, but the disease steadily progressed, and the excessive pain and broken rest told much on my patient's constitution. After the operation she experienced little or no pain, except at an after-stage, arising from exceptional circumstances—viz., the unfortunate galling of the splint in the upper part of the thigh, which produced a large diffuse abscess. The great point to which I would direct attention is this: that whereas before the operation no sedative procured her rest at night, no sooner was the diseased articulation removed, than she slept night after night with comparative ease and comfort. A

singular, and I believe unprecedented, accident befel her. Soon after she left the hospital cured, with perfect bony anchylosis, she fell over some stone steps, and fractured the femur two inches above the excised knee, the osseous union remaining intact."

ART. 213.—*On Combined Resection of the Os Calcis, Astragalus and Navicular Bone with Preservation of a Useful Foot.*

By Dr. LEHMANN.

(*Deutsche Klinik*, No. 1, 1870 ; *Schmidt's Jahrbücher*, No. 11, 1870.)

Heyfelder has put forward the proposition that extirpation of the calcaneum is contra-indicated whenever there is co-existent disease or injury of several adjacent bones, particularly of the whole astragalus. This opinion was supported by his experience of 26 cases, in which either a relapse of the disease occurred or the foot was left too short and mobile, and consequently unfitted for locomotion. Dr. Lehmann, however, holds that resection of several tarsal bones may be followed by success if the periosteum be left uninjured and in connexion with the surrounding soft parts, and if the whole of the disease, including osteoporotic bone, be removed. In a case of caries of the tarsal bones in a working man, aged forty years, this surgeon performed such a combined resection, and had the satisfaction, not only to cure the patient, but also to leave a useful foot for walking. The following were the different steps of the operation :—

1. *The skin-incision.*—This commenced at the lower border of the outer surface of the calcaneum, at a spot corresponding to the articulation between this bone and the cuboid. The knife was carried backwards along the lower border of the outer part of the foot, and across the heel, in a line corresponding to the lower margin of the tuberosity of the calcaneum, and finally, forwards along the lower margin of the inner surface of the foot, to terminate at a point in the hollow of the foot lying about two inches below the internal malleolus. From its shape, Dr. Lehmann calls this the sickle-incision.

2. *Separation of the soft parts from the bones.*—In the first place, the plantar flap formed by the sickle-shaped incision was, together with the periosteum, dissected away from the lower surface of the os calcis, next the integument, together with the tendons of the peroneal muscle, and with the periosteum from the outer surface of the calcaneum, then the integument of the heel, together with the tendo Achillis and periosteum from the tuberosity and upper surface of the calcaneum; and finally the integument of the outer surface of the ankle with periosteum from the inner surface of the same bone.

3. *Detachment of the bones.*—With this object in view, the ankle-joint was opened on both sides and behind, and, finally, by drawing the joint downwards and passing the knife between the bones, it was laid open in front. On continued downward traction of the calcaneum and astragalus, the navicular bone was brought into view. After this third bone

had been detached from its periosteum, the joint between the calcaneum and the cuboid was opened at the outer side, and that between the navicular and the cuneiform bones at the inner surface of the foot; and finally, all the bones thus set free were removed from the wound.

After-treatment.—The lateral parts of the wound were united by needles, the posterior part being left open for the flow of pus. The wound was covered by charpie. In cases of this kind the foot may be placed either in a gypsum bandage, with openings corresponding to the wound, or in a hollow splint, furnished with flaps for the heel. In Dr. Lehmann's case, suppuration had ceased eight weeks after the operation; and four weeks later, three months after the operation, the foot had not only the appearance of a normal extremity, but the patient could use it as well as a sound foot, the ankle-joint being sufficiently flexible to permit walking without a limp and without the use of a stick.

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PART III.—MIDWIFERY.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

(A) CONCERNING PREGNANCY AND PARTURITION.

ART. 214.—*On Uterine Compression as a Means of Completing Delivery.*

By Dr. G. CHANTREUIL, of Paris.

(*Archives Générales de Médecine*, No. 10, 1871.)

"The method of uterine compression is simple in principle and easy in execution. Its aim being to strengthen the uterine contractions it ought to be applied during the pains and not in the intervals; the sooner one operates after the expulsion of the fœtus the more rapid is the success of the proceeding; one may, however, succeed a quarter or half an hour after the expulsion of the fœtus, but these conditions are most unfavourable.

"When the contraction of the uterus has attained its maximum during the first pain which is normally manifested after the issue of the infant, the medical attendant grasps with the whole hand the fundus of the viscus in such a manner that the fundus and the upper part of the anterior surface of the womb are under the palm of the right hand placed transversely. Maintained pressure from above downwards and from before backwards is then kept up by this hand, its action being increased by the support of the dorsal surface of the left hand. With this compression the placenta and membranes are detached and then pass in a close mass through the orifice of the uterus; sometimes they pass all at once from the external genitals like a cherry-stone seized between the thumb and index-finger.

"When I undertook the duties of interne to the maternity department of the Cochin Hospital, M. de St. Germain permitted me to practise uterine compression, and himself had recourse to this proceeding, with very good results, whenever he was in the lying-in wards during a labour. My successor, two internes and two midwives of the establishment followed our example, and experienced no difficulty in the performance of this operative proceeding, by means of which they always succeeded in bringing about complete expulsion of the placenta and the membranes.

"In 540 observations collected by myself I have been able to show a tolerably rapid expulsion of the placenta and membranes. This expulsion takes place sometimes at the time of the first contraction following

the issue of the fœtus, but more frequently with the second and third contractions.

"In a table prepared by myself, for showing the different epochs at which expulsion of the placenta occurred in the numerous labours in which uterine compression was practised, it may be seen that delivery was completed during the first six minutes, and even during the first three minutes that elapsed after the issue of the fœtus.

"In eleven cases the expulsion of the placenta was delayed for ten minutes, in six for fifteen minutes, and in three other cases for twenty minutes. With regard to the three last cases I find the following facts recorded:—

"Case 1.—Child born, but placenta not expelled at the time of admission. Here the uterine compression was not employed immediately after the birth.

"Case 2.—One of a woman in whom contractions were very slight after the birth of the child.

"Case 3.—In this case the contractions were weak and irregular during labour.

"In cases where the contractions, particularly those of the expulsive period, are short, feeble, and irregular, completion of the delivery by uterine compression is brought about less rapidly. On the contrary, when the expulsive pains have been strong and prolonged through the last period of labour, the issue of the placenta is almost immediate

"In cases of premature labour this method seems to act less actively. The weight of the placenta has no apparently sensible influence upon the rapidity of the result. According to Crédé, the woman suffers no inconvenience from the compression, beyond a sharp pain at the moment of the manœuvre, altogether comparable to that produced by a strong pain. But there is a great difference between this phenomenon and the painful distension of the genital organs, which must be produced when the placenta has to be sought for in the uterine cavity. For my own part, I have observed some time after delivery some tenderness of the womb, which soon disappeared either spontaneously or under the influence of opiated cataplasms, and never advanced to metritis.

"It is evident that by this proceeding one avoids rupture of the cord and its consequences, retention of the placenta, purulent infection, &c. Deviation and inversion of the uterus cannot take place, since the umbilical cord is not dragged upon. The regular and rapid contraction of the uterus, which succeeds the rapid expulsion of the placenta, prevents hæmorrhage. In the cases which I have collected from the practice of the Cochin maternity, there is not a single instance of hæmorrhage occurring during or after the expulsion of the placenta. Other observers, as Crédé, Clarke, Spiegelberg, and Mayer, assert that they have not observed hæmorrhage since they have employed exclusively this proceeding in their practice. During this epoch also, they state that they have not seen those cases which are described in obstetric works, under the designations of adhesion of the placenta, and of retention and inclusion of this organ, and seem disposed to inquire whether such cases really exist. It would seem, in fact, that the instances which have been described as such are due simply to failure of

energy in the contractions; by strengthening these contractions the placenta, which is neither adherent nor enclosed, is detached and expelled. M. Depaul, in his clinical lectures, does not readily admit that the superior portion of the body of the uterus may separately contract to form a cavity to which the placenta can be retained. According to this authority it would be more conformable to practice to explain the hour-glass contraction taken by the womb in certain cases, by contraction of the internal orifice; the part below the contraction could not be anything else than the enlarged and dilated cavity of the neck; the superior part would be constituted by the whole body of the organ, enclosing in its cavity the placenta and membranes rendered sluggish by failure of the expulsive forces.

"It may be objected that the dangers of this method, when actually adopted, are due particularly to the inexact application of the practical means which constitute it, and that one ought not to put to its account the inconvenience resulting from the ignorance of persons who employ it.

"I would acknowledge in part the justice of this remark, but one must agree that at the stage of delivery, when the cord is pulled down, there is some vague and uncertain practice which is left to the sagacity and experience of the accoucheur. He does not know at what precise period he ought to exercise traction, what is the force which he ought to employ, and what, above all, is the superior limit of this force compatible with the health of the woman.

"There exists, it is true, this good means of avoiding a mistake—not to pull upon the cord too soon, that is to say, to examine the woman, and to make out whether the placenta is engaged in the neck of the womb. But, in order to make this diagnosis, it is necessary to have a certain skill in touch which, unfortunately, is not very readily acquired. Besides, in a great number of cases, we have observed this precaution to be entirely neglected before traction has been made on the cord.

"With regard to midwives especially, I think that it is useful to lay down fixed rules for the removal of the placenta, in order that their minds may be more calm and their conduct less uncertain during the period following accouchement. With the method of uterine compression this uncertainty disappears. Pupils when impressed with the rule of never to draw down the cord will be led to avoid the dangers of breaking this structure, of producing uterine invasion, and of tearing the placenta; on the other hand, with the actually current ideas on this subject, the most prominent idea in the mind of the pupil, who has not devoted very much time to the study of obstetrics, is *traction on the umbilical cord.*

"The very variable epoch at which these tractions ought to be made, the important precaution which ought to be taken before carrying out this practice, and which consists in determining whether the placenta is already engaged in the orifice, are details which may be readily forgotten, and the best proof of this fact is that the traction is often made too soon or too late; the consequences of a premature intervention are too well known—rupture of the cord, uterine invasion, &c. When the traction is made too late we find contraction of the internal orifice, inclusion of the placenta in the uterine cavity, &c.

"These accidents, then, will be remedied by persuading practitioners not to touch the cord, but to replace the force traction by the *vis à tergo*.

"These external manœuvres are much less repugnant to midwives and to practitioners but little familiar with obstetrics than the operation, which consists in introducing the whole hand into the uterine cavity for the purpose of seeking the placenta. This is what happens, particularly in cases of rupture of the cord: the attendant hesitates, perhaps with reason, to perform without delay the necessary internal manœuvres; he waits two or three hours, or even longer, relying upon the efforts of nature. If these are powerless recourse is then had to a more experienced or a bolder *confrère*, who meets with, at the time of his arrival, excessive and even insurmountable difficulties.

"Whilst speaking of the advantages of uterine compression, it may be stated that the generalization of the employment of this method would result in a more active attention to the latter stages of delivery from competent persons; it would prevent this part of the process from being confided to the care of females, altogether strangers to the obstetric art, and attention would be directed by the necessity of exercising a strict control over the state of the uterus after the expulsion of the fœtus. The uterine contractions ought to be excited in order for the expulsion of the placenta to take place spontaneously. If these conditions be fulfilled it may be readily comprehended that hæmorrhage will rarely occur.

"I am well aware that in all treatises on obstetrics it is recommended to keep a watch over the uterus after expulsion of the fœtus, in the fear of inertia and a distension of this organ from internal loss; it is evident that this recommendation is often forgotten in practice.

"Midwives, and sometimes practitioners, after cutting and tying the cord, leave the mother to attend to the child, returning after an interval to complete the delivery; they pull at the cord, and if there is much resistance leave it; some time having elapsed, they again pull, until the placenta arrives at the vulva. It may be conceived how accidents may result from this mode of proceeding; abundant and rapid hæmorrhage may occur whilst the midwife is occupied in cleansing and wiping the infant.

"The employment of uterine compression would do away with this custom, for, according to the rule laid down by Crédé, the hand of the accoucheur ought to be applied to the uterus immediately after the birth of the child, and be kept there until the expulsion of the placenta.

"To resume, I think that the method of completing delivery, called uterine compression, presents great advantages. By nature we are not enthusiastic about new things, but I hold that it is the duty of every medical man to make known what he may think to be useful in the practice of his art. I hope that no one will pronounce against this mode of completing delivery without having employed it, and I await the results of my *confrères'* experiences on this subject."

Art. 215.—*Blood-letting in Obstetric Practice.*

By Fordyce Barker, M.D.

(*The Medical Record*, January 16.)

In this paper Dr. Barker enumerates the various conditions before, during, or after delivery in which blood-letting has been recommended by authorities, and refers to those in which he has thought it requisite to bleed. Amongst the latter are those in which there is vertigo and flushing of the face, though, as Andral and Cazeaux long ago showed, these symptoms may be coincident with poverty of blood, but, even in hydræmia, there might be a serous congestion capable of being relieved by venesection. Uterine and renal congestions, the former seen much oftener in feeble women, almost always make their appearance at the menstrual periods, when the woman will complain of tension and swelling of the abdomen, and of weight in the pelvis. If proper measures be not employed to reduce the congestion of the uterus, there may be a little flow of blood from it, and some danger of abortion. This is commonly accompanied by marked vesical irritation. If these symptoms do not readily disappear, Dr. Barker thought bleeding would be the best treatment, following it by chlorate of potash and iron. As regards renal congestion, it would appear that in some cases of cerebral congestion the primary hyperæmia is to be found in the kidneys. This may be seen especially in the albuminuria of pregnancy. He related a case of sudden and severe convulsions, in which he had taken thirty ounces of blood, besides inducing a clear purgation by elaterium, and in which complete recovery occurred. He considered it to be a great mistake to suppose that blood-letting should never be resorted to except in the sthenic condition. Some of the most decided benefits he had seen derived from it had been in cases of patients extremely anæmic. In particular there was now little occasion for the use of bleeding to overcome causes of delay, as other remedies, warm douches, belladonna, chloroform, were superior, but it was still useful in preventing threatened convulsions and apoplexy. In post-partum inflammatory affections, Dr. Barker stated he had not employed it for many years, believing we were in possession of other safer and equally sure means. Lastly, he thought that in certain rare cases of puerperal mania venesection might be of service. In the discussion which ensued upon the paper, the views of Dr. Barker were thoroughly endorsed by Dr. Peaslee, Dr. Isaac E. Taylor, and Dr. Lente, all practitioners of large and long experience.

Art. 216.—*The Value of Emetics.*

By J. G. Stokes, M.D.

(*Chicago Medical Examiner;* and *The Medical Record*, February 15.)

Dr. Stokes presents the claim of emetics, given during pregnancy, to the favourable consideration of physicians. He finds that in cases of

threatened abortion, miscarriage, and premature labour, they have, in his practice, acted with more promptness, and with more permanent good results, than every other known remedy combined. In attempting to discover the *modus operandi* of an emetic in cases of abortion, miscarriage, and premature labour, its powerful revulsive effects should not be overlooked. It unlocks and restores the secretions, and has a happy effect in righting up the digestive apparatus, and relieves the distress during pregnancy, of sour stomach, heartburn, &c., and tends to regulate the bowels by restoring the secretions. It also has a very decided effect upon the nervous system.

Art. 217.—*A New Method of Delivering the After-coming Head in Contracted Pelvis.*

By William Goodell, M.D.

(*American Journal of Obstetrics*, November, 1870.)

Dr. Goodell, in a communication to the Philadelphia Obstetrical Society, gives the following account of this method, which he has successfully employed :—

"In a brim contracted in its antero-posterior diameter, the sacral side of the after-coming head becomes fixed on the point of the projecting promontory, and its extrication can take place only when the pubic side of the head can be made to revolve around the promontory as a centre of motion, by descending over the smooth surface of the symphysis. And this can the more readily be done in such cases, because the sacrum is so scooped out and so shortened that traction can be often made in a line posterior to the axis of the superior strait. Bearing this fact in mind, after grasping the neck of the child with one hand, and the ankles with the other, the physician should make his first movement of traction in the axis of the outlet—indeed, in a line anterior to this axis—by at the same time forcing the child's neck against the pubes, for then the pubic side of the head will recede from the inlet, whilst the sacral side will proportionately descend over the point of the promontory, and affront the inlet. This change of position can be materially aided by an intelligent assistant, who will make pressure with both hands, through the flaccid abdominal walls, upon the vault of the child's head, from before, backwards and downwards. By this manœuvre the promontory will nip the head at a point higher up, and nearer to its vault; hence the arm of the lever, measured by a line drawn from the base of the skull to the point nipped by the promontory, will be correspondingly lengthened, an advantage not to be overlooked. If now, without for a moment relaxing the original traction-force, its direction be reversed, and the body of the child be swept backwards upon the coccyx—the neck also being forced downwards and backwards into the hollow of the sacrum—and if the assistant at the same time reverses the direction of the external pressure upon the vault of the head, making it now from behind forwards and downwards, the pubic side of the child's head is made to revolve around the promontory and descend with the least expenditure of traction force, and consequently with a

much greater chance of safety to the child. Of course, as soon as the head has passed the brim, the line of traction must be changed to that of Carus' curve. Dr. G. stated that, by this method, he had thus far delivered three women with unusually bad pelves; in one of them the child's head had to be lessened in a previous labour. His last case presented so many points of interest, he would briefly relate it:—A secundipara, in her previous labour, had fortunately been prematurely delivered at the end of the seventh month of gestation. The child was still; weighed under 5 lbs., and yet her labour lasted over forty-eight hours, six of them being attended with extreme suffering and violent expulsive pains. On the present occasion she went to term against the wishes of her attending physician, who had urged the induction of premature labour. At eight a.m., when labour had lasted ten hours, Dr. G. found the water dribbling away from an expanded os uteri. The head, presenting the occiput to the left ilium, would not bear upon the cervix, but rolled about upon the shelf formed by the promontory. By careful measurement with the finger, the conjugate diameter of the brim was estimated at a trifle over three inches. It was his intention to dilate the os with the water-bags, and apply the forceps. But while he was preparing to do so, the woman suddenly began to twitch her muscles, start convulsively, and to complain of blindness and intense headache. Fearing an attack of eclampsia, he determined to deliver at once. The woman was accordingly thoroughly etherized, and brought down to the edge of the bed in the dorsal decubitus. Two fingers of the left hand were then squeezed into the os, and ultimately a third, by which, in conjunction with the right hand externally, version was made with great ease. The foot having been drawn down, a short time was allowed to elapse before the body and arms were delivered, in order that the breech might dilate the os. Then, by following the method he had just described, the child was soon delivered in an asphyxiated condition, but promptly recovered. It presented a deep indentation on the right side of its head, weighed 7 lbs. 12 ozs., and next day measured $3\frac{1}{2}$ inches at the bi-parietal diameter. In conclusion, Dr. G. remarked that so much power and time were gained in ordinary pelvic presentations by the plan of simply pushing the head through the brim, a plan which he at first learnt from Prof. R. A. F. Penrose, that he was surprised it was not oftener resorted to. For although the neck of the child could bear a great strain without breaking, it was desirable to diminish the chances of this risk, as well as to deliver as soon as possible, since few children survived a delay of the brim of over five minutes' duration.

Art. 218.—*On Prolapse of the Funis Umbilicalis and its Treatment by the Postural Method.*

By John Brunton, M.D.

(*Medical Times and Gazette*, December 24, 1870.)

At a meeting of the Medical Society of London, on December 5th, Dr. Brunton read a paper "On Prolapse of the Funis Umbilicalis,

and its Treatment by the Postural Method." The author reviewed the method of treatment advocated in obstetric works, and showed that all of them were deficient in applicability and in good results when compared with the postural method. He reviewed the difficulties that stood in the way of the ordinary method, and showed how absurd it was to think of carrying about an instrument for the reduction of the prolapse, when that accident occurred about once in 276 confinements. He showed how the postural method was in accordance with the principles of common sense, and was always applicable, the hand being the only instrument required; there was no danger to the mother, as in version, and out of ten cases thus treated by him, eight children were born alive. Of the two that were dead, one died before he arrived, and in the other case there was an extensive disease of the placenta. The operation consists in altering the direction of the uterine axes or planes, which is downwards and backwards when the mother lies on her back, and nearly level when she is in the usual obstetric position. By placing the mother on her hands and knees, in the attitude of an Eastern worshipper, the axis is made to pass upwards and backwards; then the cord can be returned by the hand during the intervals of pain, or by its own weight it slips up beyond the head. The fingers are made to irritate the os uteri by rotation till a pain comes on; then the lower segment of the uterus clutches the head or presenting part firmly, and no prolapse occurs. The difficulty being thus overcome, the patient can now assume the usual obstetric position. Dr. Brunton showed some of the instruments usually employed for the reduction of the cord. He illustrated his subject by drawings, and suggested a modification of the postural method; by applying the same principle (the action of gravity) in the usual obstetric position, when the uterine plane had been altered by propping up the pelvis by pillows, was to give the uterine plane an inclination by which the cord might slip up. Dr. Brunton had not seen the postural method described in the manuals of obstetrics, except cursorily as the knee-elbow position; were the method more generally known and followed, infant mortality in cases of prolapsus funis would be reduced to a minimum.

Art. 219.—*An Uncommon Form of Compound Presentation.*

By C. T. Winckworth, M.R.C.S.

(*The Lancet*, December 17, 1870.)

The following is the history of the case recorded by Mr. Winckworth:—

The patient was a woman of weakly constitution, and her last child was born six years ago. On December 4th the liquor amnii had escaped, since which time she had been occupied in her usual household duties, which were rather onerous. On the afternoon of the 8th she went to bed about five o'clock, as she felt some slight pains come on, which continued until my arrival, a little before twelve p.m. On examination, Mr. Winckworth found the os uteri fairly dilated, and the head and a leg presenting. The face of the child pointed towards the pubes, and

the toes of the foot also pointed in the same direction, the foot presenting foremost. Some traction on the foot producing no effect on the head, and the direction in which the toes pointed, led one fairly to suppose that it belonged to another child. The pains being short, and seeming to produce no effect, Mr. Winckworth gave some ergot, and repeated it two or three times without apparently much improvement in the uterine action. Waiting for some little time, and finding the patient was getting weaker, he sent for Mr. Harris, of Mildenhall, and it was agreed, the head still being within the cavity of the uterus, to apply the long forceps at once, which was done, and a dead child brought away; the funis was wound round the neck, and passed underneath the left thigh. The left limb was twisted, and this accounted for the position of the presenting foot. The mother was much exhausted, having been obliged to be kept up with brandy constantly. On the placenta being detached, a sudden hæmorrhage occurred, and the patient died almost immediately.

Mr. Winckworth has been induced to publish this case by the following reasons:—

1st. The difficulty of diagnosing it correctly, the direction of the toes leading one to suppose there was a second child, but which was afterwards accounted for by the limb being twisted. How this twisting was produced he is unable to state. Might it be from the position of the cord?

2nd. Not having seen a similar case recorded.

Art. 220.—*A Critical Inquiry into the Management of the Perineum during Labour.*

By William Goodell, M.D., Clinical Lecturer on the Diseases of Women and Children in the University of Pennsylvania.

(*American Journal of the Medical Sciences*, January.)

Dr. Goodell believes that although the vast majority of natural labours require no assistance whatever to insure a safe delivery, provided the woman has escaped frequent touching, yet cases do undoubtedly arise which demand intelligent assistance, nor can the line of demarcation be drawn between natural and morbid cases. The prudery of obstetric teachers has, he is sure, been the cause of many undiscovered, and consequently uncured lacerations. But why should a false delicacy interfere with the freedom of manipulation at a time when a woman's future health and happiness lie at stake, especially since her organs are then no longer *sexual*, in the common acceptation of the word, but *parturient?*

Whenever, therefore, it seems proper to aid nature, insert one or two fingers of the left hand into the rectum, the woman lying on her left side, with her knees well drawn up and separated by a pillow, and hook up and pull forward the sphincter ani towards the pubes. The thumb of the same hand is then to be placed upon the fœtal head, scrupulously, avoiding all contact with the fourchette. The right hand need not

remain idle: it assists the thumb in making the head hug the pubes, or in retarding its advance; after a pain it presses back the head from the perineum, and thus represses reflex uterine action; it restrains the movements of the woman; it pushes up the corrugated scalp, so that no folds shall remain beneath the sharp edge of the perineum to increase the circumference of the child's head; finally, it supports the emerging head and body, causing them to describe the curve of Carus.

Art. 221.—*A Case of Pregnancy and Labour Complicated with Paraplegia.*

By W. H. Borham, L.R.C.P.E. and M.R.C.S.E.

(*The Lancet*, December 17, 1870.)

The following case possesses features of great interest and rarity:—

In September, 1868, Mrs. R——, aged thirty, the wife of a small farmer, was six months advanced in pregnancy with her second child. She complained of pain in her back and loins and down the thighs, and she limped in walking. A month later she was taken suddenly with total paralysis of both legs, and complete loss of feeling from the toes to the lumbar region followed. The uterus, bladder, and rectum joined in this unfortunate condition, involuntary secretions emanating from these organs. In the beginning of November a large sloughing phagedænic wound made its appearance over the sacrum, connecting itself by small channels with the spinal marrow. On the 10th of December the full term of utero-gestation was considered to be accomplished, and no indication of pains appeared; but offensive discharges now came from the womb in abundance, and purulent absorption was fast threatening. On the 12th Mr. Borham ascertained that the os was relaxed, powerless, and lifeless; it yielded almost as putty would to the touch, pitting like the skin of anasarca does to the pressure of the finger's tip. The patient could not feel Mr. Borham's manipulations, and he introduced his hand gradually into the uterus (little force was necessary), and grasped the feet of the child, turned, and delivered the woman at once of a putrid child. Version, usually an operation of a sensitive nature to the patient, was accomplished without the mother being aware that Mr. Borham even touched her. She gradually sank, and died on the 20th, eight days after delivery; and during this time the wound in the back rapidly increased till it attained the large size of a dinner-plate. No secretion of milk or other symptoms of a newly-made mother came on after delivery.

Art. 222.—*On Vaccination and Re-Vaccination of Pregnant Women.*

By Robert Barnes, M.D., Obstetric Physician at St. Thomas's Hospital.

(*British Medical Journal*, March 4.)

The question has frequently been put to Dr. Barnes, Is it right to

vaccinate pregnant women? Some persons seem to entertain the apprehension that pregnant women incur special and serious risks under vaccination. To justify exceptional neglect of vaccination in their case, it ought to be shown, not only what this special risk is, but also that it is more serious than the risk incurred by the women themselves by taking small-pox, and thus of propagating the disease to others. The community as well as the pregnant woman must be considered.

To make out, then, a case for special exemption, it ought to be shown that the pregnant woman incurs a particular danger. Where is the evidence of this? Dr. Meigs says—"Do not vaccinate women when pregnant. I have been the witness of dreadful distress from the operation. Eschew it, I entreat you." Dr. Barnes fears there is some confusion in the matter. His own experience has supplied him with many illustrations which warrant the following propositions:—

1. Pregnant women living under epidemic or zymotic influences are more prone to take the prevalent morbid poison than others.
2. Having taken a morbid poison, they are less able to throw it off.
3. Their system is less able to resist its injurious action. Abortion and a most dangerous form of puerperal fever are very likely to follow.

Dr. Barnes thinks we may conclude, in the absence of decisive evidence of special danger, that pregnant women are entitled to equal protection against small-pox with the rest of the community; and that vaccination or re-vaccination should be practised on pregnant women, in their own interest, as well as in that of the community of which they form a part.

Art. 223.—*On the Sickness of Pregnancy, its Cause and Treatment.*

By Graily Hewitt, M.D., F.R.C.P.

(*British Medical Journal*, April 22.)

At a meeting of the Obstetrical Society of London, on April 5th, Dr. Graily Hewitt read a paper on the above subject. He remarked that the sickness in pregnancy had generally been accepted as an inevitable circumstance. The causes of its occasional inveteracy and even danger had never been satisfactorily made out; and the treatment had not been conducted on any one principle. Yet an analogous cause must be in operation in the slight cases and in the more severe forms. At present, the general professional opinion was, that it was due to the distending effect of the increasing contents of the uterus, exciting in a reflex manner the act of vomiting. The author, accepting this view, propounded the theory that the existence of flexions of the uterus was the prime causal factor to the vomiting of pregnancy in by far the majority of instances, inasmuch as it offered an additional hindrance to the proper expansion of the uterus, and, by mechanical pressure on the sensitive uterine tissue, produced in most cases reflex irritation. This theory would account for the mild and the severe forms of the symptoms. The author was led to this conclusion by observation of the close connexion between obstinate nausea and vomiting, and flexion associated with distension of the

uterus in the non-gravid state, as in cases of dysmenorrhœa produced by flexion. Latterly he had applied this explanation to the gravid cases; and the clinical facts which he had accumulated appeared very completely to bear out the general truth of the theory. An anteflexed gravid uterus was most commonly the condition present, the anteflexion having existed before the pregnancy; retroflexion of the gravid uterus was much less common, because the retroflexed uterus was less liable to become impregnated. Very obstinate sickness occurred generally from the second to the fourth month, when the uterus was sometimes found tightly fixed in the pelvis. How far the explanation would apply to cases where the pregnancy was more advanced, the author could not say, not having had cases to test the matter. The slight cases, where the sickness was limited to the time of rising from bed, were explained by the action of gravity, the erect posture suddenly bending the uterus on itself to a slight extent. Undoubtedly, whatever tended to hinder the expansion of the uterus might equally induce sickness. The results of measures to restore the organ to its proper shape had been found very successful. Sometimes maintenance of the horizontal position alone was sufficient; in other cases, mechanical supports, elevating the fundus anteriorly or posteriorly, according to circumstances, were used.—Dr. Barnes said that displacement of the uterus was an old theory as to the cause of vomiting in pregnancy. He could, however, state from many precise observations that flexions of the gravid uterus were often present without any unusual vomiting, and that most obstinate vomiting occurred where there was no flexion. The theory of the stretching of the uterine fibres out of proportion to their growth had been most distinctly set forth by Bretonneau of Tours. Many facts concurred in proving its truth. When vomiting had once become excessive, the defective nutrition was attended by impoverishment of the blood; and the blood was further degraded by the absorption of noxious material from the system. Concurrently with this, the habit of vomiting induced a morbidly irritable state of the spinal cord, so that it readily responded to the slightest peripheral or emotional excitation.—Dr. Tilt denied that vomiting was any more caused by flexions of the gravid than by displacement of the unimpregnated uterus. Uncomplicated uterine malpositions had no symptoms. In the case referred to in the paper, the cure was attributed to rest in the horizontal posture—a remedy of general use. Dr. Tilt thought the proposed practice of restraining the sickness of pregnancy by the use of pessaries likely to lead to disastrous results.—Dr. Wynn Williams thought the sickness might be aggravated by the unequal distension resulting from flexions of the uterus. In the later months of pregnancy, the sickness was generally due to pressure on the abdominal viscera, more especially the liver.—Dr. Playfair had heard Dr. Hewitt's proposal to apply mechanical supports to the gravid uterus with some alarm. He did not doubt that some degree of sickness was a perfectly healthy phenomenon in pregnancy. Sickness was much more severe, as a rule, in first pregnancies; flexions, on the other hand, were most common in multiparæ. Again, it was by no means rare for sickness to continue beyond the fourth month, and then flexions could but very rarely exist.—Dr. Wiltshire had been informed that the hypothesis brought forward by Dr. Hewitt had also been propounded by Professor

Krasovsky of St. Petersburg.—Dr. Snow Beck said that, in cases of pregnancy attended with anteversion and retroversion, sickness was not more frequent than where no deviation was present. Much stress had been laid on anteversion; but he was unable to see anything to prevent the uterus from rising in the usual way. He denied the existence of stretching and thinning of the uterine tissue at the seat of version, the constriction of the blood-vessels and consequent congestion, and the assumed pressure on the nerves. Further, the nerves at the seat of flexion were not those concerned in the production of sickness; for affections of the fundus of the uterus were those generally attended with sickness.—The President's (Dr. Braxton Hicks) experience did not coincide with Dr. Hewitt's. He believed that tension of the uterus was the chief cause, as shown by the immediate relief afforded in some cases when the membranes were ruptured; but he certainly thought with the author of the paper, that the retroflexion and anteflexion favoured the pressure. The act of vomiting probably tended to increase the displacement.—Mr. Scott said that, in the most severe case which he remembered, the sickness continued to between the sixth and seventh months, when flexion could not be a cause. He had frequently seen cases of retroflexion in pregnancy without sickness.—Dr. Graily Hewitt said that it must be evident that the uterus could not be acutely bent at the cervix without compression of its tissues on the concave side of the bend. He was not aware that the theory had been advanced in this shape by any previous author. With Dr. Barnes, he believed, and had stated, that the distension of the uterus was the cause; but whether it operated by compression of the nerves or by stretching of the muscular fibres, was a question. He himself believed the former to be the true explanation. He recommended caution in the use of pessaries. That best adapted for the anteflected cases was the globular air-pessary. The fact that sickness was most common in primiparæ was quite in conformity with the theory advanced. It must, however, be recollected that he did not contend that every case of sickness would be found to be a case of flexion; nor would every case of flexion be attended with sickness.

Art. 224.—*Nausea in Pregnancy.*

(*British Medical Journal,* March 11.)

Mr. T. E. Clark, Surgeon to the Bristol Royal Infirmary, says he has found two grains of extract of white poppy, every four hours, exceedingly successful; also, a pill consisting of kreasote, half a minim; bismuth, two grains; extract of hyoscyamus, two grains; every four hours. The patient should be made to lie down for some time after each meal.

Another country practitioner states that the only remedy which he has found available in sympathetic sickness, is carbolic acid. He gives two drops three times a day, diffused in a mucilaginous mixture.

Mr. H. Willan Jackson, of Egham Hill, Surrey, writes that the oxalate of cerium, in his experience, is always a palliative and almost invariably a remedy for the sickness in pregnancy; it should, however, be pre-

scribed in doses of less than a grain. He generally has divided ten grains into twelve pills, made up with manna; if more than a grain be given for a dose, it not unfrequently increases the severity of the symptoms it is given to suppress.

(B) CONCERNING THE DISEASES OF WOMEN.

ART. 225.—*Lectures at the Hospital for Women on Flexions, Torsions, and Displacements of the Uterus.*

By PROTHEROE SMITH, M.D., M.R.C.P.

(*The Lancet*, March 25, April 15, 29.)

LECTURE I.

Dr. Protheroe Smith began the course of lectures by saying that it would be impossible within the prescribed limits to treat of all the subjects included in the title of "Flexions, Torsions, and Displacements of the Uterus." He would therefore confine his remarks to the most common dislocations of the unimpregnated uterus, leaving the other topics to a future occasion.

Finding dysmenorrhœa and sterility were often benefited by dilatation of the cervix uteri, Dr. Protheroe Smith had made, in 1841, an instrument (exhibited at the lecture) after the model of Heurteloup's lithotrite. With this, besides other advantages, he and Dr. Rigby had been able to dilate the cervix uteri, to measure the extent and direction of the uterine cavity, and to detect several instances of deformity and displacement of the uterus. This dilator he sent to Prof. Simpson. To him, however, we are indebted for an instrument which, for simplicity of structure and facility of use, is unrivalled; the uterine sound being the most efficient means of detecting and redressing abnormal uterine dislocations.

By the use of this sound, experience soon proved that instead of such affections being, as heretofore considered, rare, they were very common, and were easily diagnosed and treated. As in the majority of such cases, hyperæmia, if not inflammation, forms the initiative of these maladies, he advocated the employment of the speculum before the use of other instruments, whether for diagnosis or treatment. For this purpose Dr. Protheroe Smith preferred that form he had exhibited at the Royal Medical and Surgical Society in 1844, and which enables the operator to employ simultaneously tactile examination and visual inspection, especially useful in certain torsions and flexions of the cervical portion of the uterus.

Though differing from Sir James Simpson, who believed that, practically and pathologically, there exists no difference, excepting in degree, between flexions and versions of the uterus, the lecturer observed that it was but due to the memory of that able and painstaking physician and physicist to say, that of all, and there were many, who might justly claim to have improved our knowledge of abnormal dislocations of the uterus, and uterine pathology in general, he may be declared paramount.

After describing the various forms of these morbid deflections, the diseases for which they may be mistaken, their mode of detection by taxis, uterine sound, and speculum, their antiphlogistic and mechanical treatment by means of Simpson's intra-uterine supporters, &c., he proceeded to treat of their complications and the means for their diagnosis and treatment. He referred to his papers published in the *British Record* in 1848, in elucidation of the subject. There he remarks: "The essential differences between flexions and versions are—1st, that in the former the os and cervix preserve their normal positions; and, 2nd, the axis of the uterus in flexion is curved, and straight in the forms of obliquity."

LECTURE II.

Of an extensive review of numerous authors, domestic and foreign, referred to by Dr. Protheroe Smith in his second lecture, however valuable as an addition to the bibliography of uterine flexions, it is enough here to say that during the last twenty years Sir Jas. Simpson, Rigby, Velpeau, Becquerel, Virchow, Rokitansky, and other celebrities have, in their writings, recognised the obvious distinction between the varieties in the direction of the axis of the uterus the result of natural causes, and the abnormal versions and flexions of the organs.

In the treatment of these obliquities and prolapsus of the unimpregnated uterus, whilst recognising the good effected by sounds, pessaries, &c., Dr. Smith expressed some doubt of their advantage. Since he had adopted a combination of general treatment, rest, and avoidance of all causes of excitement, with efficient aid of mechanical appliances *externally*, the employment of internal, and particularly intra-uterine, instruments was found generally unnecessary; and when used, he advised rest, under the watchful care of the medical attendant, and the greatest caution.

To determine precisely abnormal displacements of the uterus, its normal standard of form and position was mentioned—namely, that in nulliparous women the cavity throughout is straight, and though its direction varies considerably, consequent on the alterations of position of the body, the condition of the bladder and rectum, and the occurrence of the catamenia, it is enough to say that the axis of the uterine cavity is identical with that of the inlet or brim of the pelvis; and that of the multiparous uterus is more vertical, or inclined slightly backwards.

With a view of better explaining the causes of these ailments, and so to aid their diagnosis and treatment, the lecturer gave some views of the physiology of menstruation, for which, though in some measure novel, he solicited the unprejudiced attention and the test of practical observation of his professional brethren.

Referring to the publications of Dr. Tyler Smith, he offered some proofs of the existence of a large supply of nerves to the uterus, as shown (in the absence of sensation and volition) by the instinctive power of selection and of embracing the ovaries in menstruation by the Fallopian tubes. So the whole organ contracts when the uterus is stimulated through the abdominal parietes. He illustrated these remarks by stating that this peristaltic form of action in the tubes was witnessed by him-

self and others in 1848 whilst securing the pedicle in a case of ovariotomy in the Hospital for Women. Viewing the detrusion of the ovule in menstruation to a certain extent as due to suction power of the Fallopian tubes, and its action and that of the uterus as peristaltic, there is a point from which such force is exerted: thus in the erectile functions of the tubes, it becomes extended, and forms a stiffened arch between the ovary and uterus, which latter, with the vagina, owing to the erectile tissue around it, elongates the whole organ, and so facilitates its bending when predisposed by alteration in structure at the points of commissure of the several parts composing the whole uterine canal. When exceeding the limits of nature, such frequent recurring movements create a disposition to abnormal displacements, although, when not in excess, only offering a natural stimulus to the uterus to complete the process of menstruation. Thus the natural movements of the body, essential to its well-being, become in excess productive of disease. So when the primeval law enjoining women to "be fruitful and multiply" is disregarded, the unceasing recurrence of the catamenia (interrupted in the married by utero-gestation and lactation) often imposes penalties of disease. This assertion is strengthened by the fact that uterine disease is frequently observed in the sterile and the single woman beyond the age of twenty-five.

Regarding the vagina, cervix, fundus uteri, and Fallopian tubes as four successive parts of one canal, there is an evident distinction between that portion which lies above the os interum uteri and that below it; and a certain mobility exists between fundus and neck, as is the case in a greater degree between cervix and vagina, or between Fallopian tubes and uterus. Dr. Protheroe Smith observed that the menstrual act consists of suction, erectile action, and peristaltic motion, and that, when uninterrupted by pregnancy and lactation, it is in continuous excess, and tends frequently to produce both dysmenorrhœa and uterine displacements. A common cause of uterine displacements, according to the observations of Dr. Protheroe Smith, not unfrequently exists in the distortions of the bony structure. When, from debility, a loss of muscular power, or from structural disease, deflections of the spine occur, an abnormal position of the pelvis almost invariably results. The natural oblique plane of the pelvis is then changed to one more horizontal, and at times, when there is rotation of the vertebræ, it becomes twisted, one hip being in advance of the other. The lecturer had alluded to the cause of such frequent distortions in women in papers read at the last two annual meetings of the British Medical Association. When the lumbo-spinal curve is thus lost, the bladder, uterus, and rectum become subject to a depressing and deranging force from the weight of the abdominal viscera, causing not only displacements of the uterus, but also irritable bladder and hæmorrhoidal distress, which he explained by reference to the principles regulating mechanical force. To this end the primary data necessary are—first, the centre of gravity of the body when normal and erect; secondly, the angle formed by the spine and pelvis. The first is proved to be for all practical purposes at the sacro-vertebral articulation. The second is an angle of 140 degrees. In the healthy condition this angle is invariable when the body is erect and in repose. When the muscular power which effects this is dimi-

nished the pelvis loses its true oblique plane and is tilted upwards, owing to the trochanteric axis upon which it rests being in advance of the centre of pelvic movement—namely, the spinal column. Thus a backward displacement of the pelvic viscera happens, with a disturbance of those forces which have hitherto served to keep in place the uterus, bladder, and rectum, with that freedom of motion required in health. When the pelvis is tilted upwards a red sposition of balance occurs in these parts, with a considerable augmentation of intestinal weight in relation to the organs enumerated. To redirect this weight and rebalance the uterus, to restore the pelvis to its natural oblique plane, is the intention of Dr. Protheroe Smith's "pelvic band." By this the pelvic plane is easily restored to the normal angle of 140°, and the lumbo-spinal arch when lost. Mechanically it is a lever of the first order; the upper part of the thorax used as the power, the lumbar spine being the fulcrum, and the pelvis the weight to be moved. By depressing the pubic portion of the pelvic basin the abdominal walls are made tense, and thus it is also a valuable means of parietal sustentation in pregnancy. Dr. Protheroe Smith, in accordance with these principles, has observed:—1st. That dislocations of the uterus are frequently attended by corresponding displacements of the pelvis and spine. 2nd. When the pelvis is twisted to one side there is at times torsion or latero-version of the organ within. 3rd. When the pelvis occupies a horizontal rather than an oblique plane, retroversion and retroflexion, and less frequently anteflexion, of the womb occur. 4th. These abnormal displacements, with vesical and rectal irritation, *pari passu* increase as the spine-pelvic deformity advances. 5th. In the majority of cases of retroversion and retroflexion the gait is a stooping one, with loss of lumbo-spinal curve, the pelvis being much in advance of the normal standard position. 6th. In this abnormal position of the parts, when of long standing, whilst the extensors of the thigh are atrophied, the flexors are found increased in bulk and strength in order to sustain the increased burden imposed on them—a fact he believed which had not before been noticed.

LECTURE III.

Whilst showing that spino-pelvic distortions and uterine dislocations are not only often coincident, but that they may be regarded to a certain extent as cause and effect, Dr. Protheroe Smith remarked that a clear line of distinction, nevertheless, exists between such mechanical causes of displacement of viscera and those organic changes in tissue, especially of the fundus uteri, which dispose to, and produce, flexions of the uterus upon itself. Thus, when the erectile character of the vaginal portion of the uterus is too much or too often called into activity, or the cervix preternaturally lengthened; when the mobility of the fundus on the cervix at the os internum uteri is increased by laxity of the fundo-cervical commissure, or by partial atrophy, or it becomes the subject of indurations, swellings, or deposits, or there is partial involution—it requires but the provocation of a sudden jar, effort, or action of the lumbo-abdominal muscles to create a flexion of the uterus. In some, instances, however, of long-standing uterine flexions, Dr. Protheroe Smith, after failure of ordinary means, had found

the pelvic band alone sufficient to cure; whilst in others it greatly accelerated the favourable issue when, at the same time, pressure and other mechanical aids were used. In cases complicated by fibroid degeneration of, or deposits in, the uterine tissue, by subperitoneal or subfascial deposits distorting and agglutinating the uterus to the pelvic wall, as means of diagnosis and of relief Dr. Protheroe Smith mentioned the uterine sound, and the exhausting or aspiring needle trocar. He described the instruments such as he employs, and the manner of using them, together with his speculum, which allows of visual inspection and tactile examination simultaneously; and the elastic pessary, which obviates the necessity for metallic or unyielding supports. Though many cases are cured by the elastic pessary, the lecturer affirmed that he never had the amount of success in treatment as he had had of late since using the pelvic band. Though there are cases of permanent displacement in which no internal appliances would be justifiable or advantageous, still in such instances the pelvic band supplied, if not a remedy, yet often relief to the distressing backache, bearing-down, and irritation of both bladder and rectum.

After some lengthy comments on the observations made in the *Dublin Journal* on his pelvic band, in which he clearly established his claim to originality of invention, and fully explained the mechanical principles upon which it acts and the peculiarities in which it differs from all other appliances, Dr. Protheroe Smith terminated his course of lectures by enumerating the following practical conclusions as *ultimata* of belief to which future investigations might fairly be referred as to authorized landmarks, viz.:—

1. That uterine flexions and displacements prevail to a great extent, and that spino-pelvic deformity is a frequent cause of derangement of the contained viscera; therefore, to treat such ailments as displacements of the uterus, &c., by any means, without at the same time restoring the primary deformity, is irrational, and, consequently, often wanting in success.

2. That their frequency is in keeping with the advance of civilization, and that they are, with but few exceptions, menstrual as to the period of their occurrence, seldom existing before the catamenia or happening after the cessation of menstruation.

3. That retroflexion is most common in the married, anteflexion in the single, and lateroflexion and torsion in women who have suffered long from rotation of the pelvis on the lumbo-dorsal vertebræ, and from that state in which one side of the pelvic basin is unduly and permanently raised above the other, so that the two angles formed by the spinal column and crista ilii are unsymmetrical, that which corresponds with the uplifted side of the pelvis being the most acute.

4. That their pathology does not differ from that of other organs of the body excepting in reference to the special functions of the uterus and its appendages.

5. That they are most frequently found in married women after protracted and difficult labours, in which the uterine tissue has suffered lesion, or when menstruation occurs too soon after parturition, and when women do not suckle, or when sterility exists.

6. That they are met with also in single women, with but few excep-

tions, not before the establishment of the catamenia, and most usually after the age of twenty-five, especially when menstruation has been uninterrupted, and excessive and too frequent, with that character of leucorrhœa which indicates chronic inflammation of the deep structures of the uterus, or with dysmenorrhœa with exudations; the most common form in the unmarried is anteflexion, the point of flexion being at the junction of the cervix to the body of the uterus.

7. That these last-named disorders and conditions often predispose to, if they do not directly cause, flexions of the womb.

8. That the primary condition of the uterus itself forming a predisposing, and at times the exciting, cause of flexions, is hyperæmia or inflammatory engorgement, the frequent result of excessive irritation and uninterrupted menstrual efforts, or of tumours, hæmatocele, abscess or effusions, or of other diseases of proximate parts, and of dystocia.

9. That this primary condition is also frequently induced by spinal debility and displaced pelvis, in consequence of which the ligamenta rotunda, broad ligaments, and adjacent parts are subjected to undue tension and pressure, at times resulting in inflammation. Thus the uterus becomes more exposed to the weight, misdirected force, and pressure of the superincumbent intestines, &c., which condition at times forms the chief impediment to the cure of uterine flexions.

10. That inflammation of the uterus and of its appendages predisposes to malposition of the womb; and when it is partial, though acute, it causes versions, flexions, and other displacements, by contracting one or both round ligaments, or by determining deposits of serum or pus, &c., within the folds of the peritoneum reflected laterally from the uterus, or anywhere subperitoneal or subfascial, where it may have the effect of drawing the organ backwards, forwards, or to one side, as it might be. As further causes of these dislocations are enumerated cysts, extra-uterine fœtation, or diseases of the bladder and rectum. As regards retroflexions specially, hypertrophy of the fundus and posterior wall of the uterus, or fibroids, fibro-cysts, and other deposits commonly situated at the cervico-fundal junction or commissure; or circumscribed atony of tissue at the point of flexion, partial inversion of the fundus and subinvolution, internal cicatrices and other results of local injuries and morbid changes in the uterine and adjacent tissues.

11. That before using the sound in diagnosis, whenever it is practicable the condition of the cervix especially should be ascertained by sight and touch, as well as that of adjacent parts; and when inflammation is discovered it should be entirely removed by bloodletting, repeated leeching, or by scarifying the part, and with antiphlogistic treatment, before any instrument is introduced in utero.

12. In employing the sound or any instrument in utero for diagnosis or for mechanical support, *extreme* care and gentleness should be observed, and *all* pain should be avoided, as such is often the precursor of pelvic inflammation.

13 In cases of flexions generally, but specially when such are impatient of internal treatment, the pelvic band, by altering the plane of the pelvis and restoring the spino-pelvic angle of 140°, often cures without any internal treatment, and is of the greatest service in removing bear-

ing-down pains and headache, in relieving irritable bladder, piles and constipation, and otherwise in aiding the cure of displacements of the uterus, and in improving the general health.

14. That in cases requiring intra-vaginal or intra-uterine treatment, all inflammatory and other organic affections of the uterus and neighbouring viscera should *first* be removed.

15. That instrumental aid by means of the pelvic band should be employed externally whenever indicated by spino-pelvic deformity; and, *as a rule*, all intra-vaginal and intra-uterine instruments should, as far as possible, be avoided.

Art. 226.—*Notes on the Medical Treatment of Fibrous Disease of the Uterus beyond Surgical Interference.*

(*British Medical Journal*, April 8, 15, and 22.)

The following notes largely bear out the opinion that the therapeutics of this disease are uncertain and tentative, notwithstanding the asserted value of the salts of potassium, mercury, and other drugs.

Guy's Hospital.—Dr. J. Braxton Hicks considers that the medical treatment of fibrous tumours may be divided into—1, the promotion of absorption; 2, the restraint of their growth; 3, the promotion of expulsion; and 4, restraint of the bleeding which they cause. 1. Regarding absorption, Dr. Hicks confesses that he has never seen anything which could encourage one in the expectation of this result. He has given iodine and bromine, and bichloride of mercury, numberless times, without any diminution in the size of the tumour. He thinks those cases where the absorption has been said to have occurred must have been, with few exceptions, erroneously diagnosticated. But 2, with regard to the restraint of the growth of the tumours, he thinks that he has noticed fair results from the employment of iodides and bromides, given, of course, over a considerable period. When the effect of these remedies on the testis and ovary is considered, it is not difficult to understand how these, by checking the impetus to the ovaries, tend to lessen the general engorgement and activity in the sexual organs. To this treatment should be added the recumbent posture during a portion of the day, and the avoidance of all kinds of pressure from external causes. 3. Sometimes much may be done to promote their expulsion by the careful administration of ergot. It may be given in doses of ten grains to half a drachm once or twice daily, infused in boiling water, and then drank, dregs and all. It may be continued for two or three days every monthly epoch; and it is of much service at this time where severe hæmorrhage is present. Dr. Hicks has seen more than twice an intermural fibroid converted into a polypus, and thus rendered capable of being removed. It is well known that polypi have been expelled and dissevered by the action of the uterus alone. Ergot increases this power of the uterine force. Forcing pain is very likely to be caused or increased by this drug; but that is, of course, necessary. 4. The other medical treatment which may be necessary in a case of fibroid tumour of the uterus is to restrain the blood-loss. Recumbent posture, of course, is very essential during the loss. The hæmostatics

which Dr. Hicks has found most reliable are gallic acid and ergot. Gallic acid is not of much use under twenty-grain doses two or three times daily, and secale in ten to fifteen grains at the same frequency. He has found that gallic acid, given during the intervals of bleeding, is very useful, coupled with cinchona, quinine, or other good tonics. When much anæmia is present, he has found it well to give iron-alum, combined with gallic acid, twice a day, during the interval, changing to ergot or full doses of gallic acid at the "period." The mixture is something like ink, but it is clear. Its formula is, one grain of sulphate of iron, ten grains of sulphate of alumina, ten grains of gallic acid, five minims of dilute sulphuric acid, and five minims of chloric ether, in an ounce of peppermint water. However, if the digestion be feeble, some of the blander kinds of chalybeates may be given, and the astringents at the monthly periods. Sometimes the hæmorrhage is so great that one or even two periods are absent; in this case, iron is indicated, but its omission is desirable as soon as the returning colour of the lips shows the improvement of the blood. There is another point which it is desirable not to overlook—namely, the state of the bowels and portal system. Constipation and congestion of the veins of the lower bowel are very apt to increase uterine hæmorrhage. The quietude necessary or imposed in this class of cases is very apt to produce this engorgement. Therefore, although strong purgatives are to be avoided, gentle laxatives are of much value. Dr. Hicks cannot say that he has seen much benefit from cannabis Indica, lately recommended in these cases.

Dr. J. J. Phillips says that, after an extended trial, he cannot record any instances where a diminution in the size of fibroid tumours of the uterus has clearly resulted from any drug administered. Whether any medicines have the power to moderate their growth, he has found difficult to determine, seeing how slow is their usual progress. The cases of enlarged uterus which have, in his practice, become smaller from the use of the bromide of potassium, he has considered to be cases of general hypertrophy of the uterus, and especially in sterile women. The knowledge of the fact that salts of lime are occasionally deposited in uterine fibroids, as in other growths, coincident with a great reduction of their vital activity, has never induced Dr. Phillips to prescribe the medicinal preparations of lime with a view to add to such local deposits or to effect a change in the vessels of the part. The objections to their use seem obvious. The fact, if such it be, that large uterine fibroids sometimes disappear insidiously, and in a short period (except in the puerperal state), is to Dr. Phillips inexplicable. There can, he thinks, be no doubt that the cases reported as such, many years ago, were instances of mistaken diagnosis—the existence of retro-uterine hæmatocele was not then known. To moderate the hæmorrhage attendant upon fibroid tumours of the uterus, nothing has appeared to him so efficient as small doses of the ergot of rye. He generally prescribes the powder, infused in water, when the hæmorrhage is severe. The ordinary astringents are also of value, gallic acid being that which he prefers. The bowels should be kept open. He has seen several cases where astringent vaginal injections used to check leucorrhœa, in cases of uterine fibroids have led to great increase of pelvic pain. If practicable, rest

in the recumbent posture is very desirable during the menstrual periods, with a view to diminish the hæmorrhage, and to avoid other effects of increased congestion of the uterus. Dr. Phillips has now a case under observation in which there are two fibroid masses in the anterior wall of the uterus, and in which there always exists some difficulty in micturition, but this amounts to retention of urine at almost every period, if the patient goes about at that time. No less important than mechanical rest in these cases, is physiological rest so far as it can be obtained. Cases are not uncommon in which fibroids have given rise to very little inconvenience until after marriage. He has seen several cases where a second marriage was undoubtedly the starting-point of the troubles from which a patient with an uterine fibroid has dated. Should a fibroid tumour become strangulated in the pelvis, interfering with the functions of the pelvic viscera, gentle attempts should be made *per vaginam* to lift it up, but this should be done with great care. The dangers incident to an inflamed fibroid and its results are great.

Great Northern Hospital.—Dr. G. C. P. Murray, while admitting that cases of fibrous disease of the uterus may at times be successfully dealt with by surgical means, believes that by far the greater number of them fall under what may be termed medical treatment. Hæmorrhage is the most distressing symptom; and next to this is the discomfort, amounting sometimes to pain, in the pelvic region, from the abnormal size and weight of the uterus itself, or from the pediculated tumour attached to it. Bearing in mind that these tumours occur often early in life, and in some cases diminish considerably in size after the cessation of menstruation, some line of treatment which enables the patient to retain her strength ought all the more to be enforced. The treatment which Dr. Murray has found useful as regards the general health has been sedative, especially about and during the periods; avoiding excitement, fatigue, much walking or standing, or excess of clothing, especially about the loins, and not allowing constipation to take place. To control the bleeding, the patient should take at the commencement of each menstrual period, a mixture consisting of gallic and sulphuric acids, with the addition of ergot if necessary; with this, ice-water injections may be used both by the bowel and vagina, and solid ice itself placed over the uterus. Should, however, the sanguineous discharge be very great, the os uteri can be dilated and the interior of the uterus well rubbed over with a solution of iron; this may also with advantage be done once a week for some time. For the second distressing condition of matters, a pessary will often give relief, or a bandage adapted with pads will keep the moveable tumour in a more comfortable position. As to the particular value of any one agent in diminishing the size or arresting the growth of these tumours, Dr. Murray has not personally met with any which he can laud; but some few years ago he attended a lady in her confinement, for whom the late Sir James Simpson had prescribed the bromide of potassium; and at the time of her delivery, eighteen months after taking the bromide, the tumour, which was at the fundus of the uterus, and larger than an orange, had nearly if not quite gone. Dr. Murray still prescribes the bromide of potassium, with, in some cases, iodine combined, as a drug, or in mineral waters, when the patient is not taking the astringent mixture.

The Hospital for Women.—Dr. Protheroe Smith, in accordance with the pathology of fibrous tumours of the uterus, when beyond the aid of surgery, has treated these diseases on the principle of helping forward those changes from the (1) primary albugineous or sarcomatous state to (2) the fibro-cartilaginous; and (3), finally, to that of osseous or cretaceous matter. Long observation shows this to be the natural order in which the disease becomes converted from the soft erectile, easily congested or inflamed, and growing or active tissue, into that denser, more compact, and less organized structure, incapable of congestion and inflammation, constituting the passive form. The primary indication of treatment, therefore, Dr. Smith believes, is to prevent hyperæmia from excitement or undue pressure, by abstinence from functional and other disturbance, and by rest in the recumbent posture, the pelvis being raised above the level of the heart; and by the pelvic band freeing the viscera from superincumbent weight, by carrying them posteriorly beyond the line of gravitation of the abdominal contents; by the application of cold water, used externally in a compress or otherwise, and *per vaginam* as a douche, with or without astringents, especially in cases in which the catamenia are in excess; and by giving internally gallic, tannic, and mineral acids, especially nitric and phosphoric, with phosphate of lime, tincture of nux vomica, strychnine, ergot with acetic acid, colchicum, digitalis, &c. In the spring and fall of the year, especially in the first stage, fibrous tumours of the uterus show a disposition to hyperæmia, congestion, and inflammation, and when these conditions are unrelieved, to increase in bulk generally, or, partially, to throw out additional growths. On these occasions, rest in the horizontal posture, leeching, abstinence from alcoholic stimulants and excitement, together with some of the above-named remedies, followed (when all swelling and abnormal heat have disappeared) by tincture of the perchloride of iron, will be found best calculated to check the disposition to increase in size, as well as, by reduction of vascularity, to bring about the second stage of the disease. In this state, it distresses only by its mechanical irritation of adjacent parts. The disease being regarded as menstrual, with regard to the period of its occurrence after the cessation of the catamenia, Dr. Smith thinks that it rarely shows the same proneness to enlarge as may be observed beforehand; but, on the contrary, there is usually a disposition to shrink and become less vascular; therefore, if by the means indicated, and by the selection of a high and dry residence, one can tide over the menstrual period of life, a state of good health often follows, interrupted only, as far as the fibroid is concerned, when by mechanical irritation it incommodes adjacent organs. Of all the means of relieving such annoyances, Dr. Smith has found parietal sustentation the most eligible, and, to accomplish this, "the pelvic band" by far the most effective means.

Dr. Alfred Meadows, in regard to the mere drug-treatment of fibrous tumours of the uterus which do not admit of surgical interference, feels very strongly that the sooner we abandon all idea of curing them, or of diminishing them by one hair's breadth, through any supposed absorptive power of medicines administered either by the mouth, by the skin, or by the vagina, all of which he has seen tried again and again, the better, in his opinion, will it be, not only for our patient's health and

comfort, but for our own credit and reputation as honest men and scientific physicians. It is, Dr. Meadows thinks, surprising that the proved inutility of drugs for this purpose has not long ago led to their abandonment; and, still more, that the outward application of such painful remedies as iodine liniment or ointment should yet be persevered with in defiance alike of reason, experience, and common sense. There are, he knows, some observers of great ability who believe in the disappearance of these growths. Dr. Meadows has never had the good fortune to witness such an occurrence, and he says he must own to having great doubts as to its possibility. But, be this as it may, he is satisfied that at present we are not in possession of any drug which can so influence the nutritional changes of the uterus and its morbid companion as to cause the slightest arrest in the growth of the latter, and, least of all, to promote its absorption. Any one who reflects upon the minute structure of these tumours, and their relation to the uterine tissue in or upon which they grow, and who at the same time estimates carefully the power of drugs to promote absorption of solid growths, will, he believes, find some difficulty in persuading himself or others that he can do any good in this direction; nor, if he remember the character and extent of the absorbents of the unimpregnated uterus, will he find much better grounds for confidence. In short, as Dr. Meadows has stated here and elsewhere, the attempt to reduce a fibrous tumour of the uterus by any system of medication is utterly hopeless, and the sooner this is admitted the better. But this by no means precludes the possibility of effecting much good by judicious medical treatment; only our object should be clearly kept in view, and we shall find, he believes, that in the main all our treatment will aim at accomplishing one of two things—either the relief of pain or the arrest of hæmorrhage. As a rule, these are in inverse proportion to one another; and in Dr. Meadows' experience he has found that, the more subperitoneal the tumour is, the greater is the pain and the less the hæmorrhage; while, on the other hand, the more submucous it is, the greater is the hæmorrhage and the less the pain. For the relief of pain he much prefers, because he has found them most useful, the employment of medicated vaginal pessaries, carrying a third or half a grain of morphia, with a sixteenth or a twelfth of a grain of atropine. In some cases, where there is ordinarily but slight discharge, the application of a few leeches to the cervix uteri will afford great relief. For the arrest of hæmorrhage, he has found few drugs so efficacious as the combination of the peracetate of iron and ergot. He has not found much benefit from the use of digitalis, nor has any simple astringent acted so well in his hands as the above. Next to that he would place the nitrate of silver, in quarter-grain doses, and next to that the acetate of lead, with dilute acetic acid. Of course there are many other remedies which are useful, and one may be found to answer better with one practitioner than with another; but, if the principles of treatment be sound, Dr. Meadows believes that the details will not be likely to err much.

Dr. Heywood Smith says that he has as yet had no case a sufficient number of years under observation to be able to record any amelioration, nor does he know as yet any medicine having direct effect on fibrous tumours; indirectly, in some rare cases, mercury seems to

slightly lessen their size. This, probably, is only a temporary alteration of the more active parts of such tumours; and, as mercury is a remedy that has to be intermitted, its permanent value is, he believes, questionable.

Dr. Arthur W. Edis believes that, with the exception of some few well-authenticated cases of the disappearance of fibroids during the process of involution following parturition, it is doubtful whether they ever become absorbed in consequence of drugs administered with that intention. Bromide of potassium is supposed to accomplish this object, and has been given in large doses continuously for months; but, beyond controlling the menorrhagia and allaying nervous symptoms, he thinks we must acknowledge that it has little power in promoting the absorption of these tumours; and the same may be said of the iodide. Much, however, may be accomplished in relieving the symptoms to which they give rise. The most prominent and frequently the most urgent symptom is hæmorrhage, either in the form of profuse and prolonged catamenia, or continuous sanguineous discharge. Leeches to the os uteri, or scarifications of the cervix, together with ergot and gallic acid in the acid infusion of roses, almost always succeed in checking or arresting the discharge. Digitalis in some instances acts very beneficially; as also cannabis indica. Mercurials occasionally prove very useful. In addition to restraining the hæmorrhage, ergot seems to retard the growth of the fibroids, more especially in the submucous intestinal cavities. The bearing-down and feeling of weight in the lower abdomen, frequently complained of, may often be greatly relieved by a properly adjusted abdominal binder, which also takes off the pressure from the bladder, and affords great comfort to the patient. Where impaction in the pelvis and obstruction to the passage of the fæces occur, much may be gained by pushing the tumour up beyond the pelvic brim. The leucorrhœa which is often present, Dr. Edis believes, should not be checked unadvisedly, as it relieves the uterine congestion and lessens the pain. The constipation frequently met with is best treated by attending to the regular evacuation of the bowels; aloes and nux vomica, confection of senna, and other simple remedies, being generally sufficient.

Edinburgh Royal Infirmary.—Dr. J. Matthews Duncan is in the habit of prescribing iodine and bromine in small doses, long continued. The same medicines with other saline constituents are made available at Creuznach by bathing and by the local hypogastric application of strong or nearly concentrated solution of the constituents of Creuznach water—Creuznach brine; some of this course of treatment can of course only be done at the springs; other parts can be done here. This treatment by iodine and bromine, Dr. Duncan believes, is not *certainly* of any use, but is probably so. It sometimes appears to be of use in diminishing the bulk of fibroids. In hæmorrhage from fibroids he recommends the same treatment as for menorrhagia; it is equally efficient, and that is, he believes, saying very little for it. When the hæmorrhage is severe, a solution of perchloride of iron, as strong as in the *Pharmacopœia*, may be applied to the bleeding surface by means of Dr. Duncan's hollow probe and syringe, made by Young, the cutler, in Edinburgh. This is of inestimable value in some cases; in the worst cases it even distinctly

saves life. Dr. Duncan treats inflammation of fibroids antiphlogistically.

Samaritan Free Hospital for Women and Children.—Mr. Spencer Wells objects to the term *fibrous*, as leading to erroneous ideas as to the nature and possible changes in these growths. Whether they are outgrowths from the peritoneal surface of the uterus, or are embedded in the uterine wall, or project as ingrowths into the uterine cavity, they are simply excessive developments of the unstriped muscular fibres of the uterus, with more or less connective or cellular tissue. They contain little or no fibrous tissue; and though, from their appearance, they may not improperly be termed *fibroid*, they cannot be *fibrous*. Virchow's term *myoma uteri* is the more correct appellation. And this is not a mere word-quibble. Nobody could expect a fibrous tumour to disappear spontaneously; whereas any one who considers for a moment how the uterus grows during pregnancy and shrinks (by involution) in the few weeks after delivery, can easily understand how rapid may be the growth of the muscular fibre of the uterus; how the cellular spaces between the fibres may become filled with serum; how rapidly this may be absorbed; and how the muscular fibres themselves may cease to grow, may become atrophied, or may undergo a process of involution similar to that which occurs after delivery. Mr. Wells is astonished to find doubts expressed as to the fact of disappearance of these growths. He can only explain these doubts by the juvenility or limited experience of the observers, for he has seen quite a series of cases, where diagnosis has been beyond question, having been confirmed by such men as Farre, West, Priestley, and Oldham, and where there has either been complete disappearance or such a diminution as to reduce a tumour, burdensome from its size, to insignificant proportions. This is not seen in young women, is rare during active uterine life, but is not at all infrequent after the cessation of the catamenia. Whether medicines have or have not much or any influence over these degenerative or atrophic changes, is quite another question; but Mr. Wells thinks he has seen enough to convince him that they have very considerable influence, provided the remedy be adapted to the case. In those cases where the tumour is elastic, probably more cellular than fibroid, with a good deal of fluid infiltrating the cellular interspaces, varying a good deal in size according to the feelings of the patient, and confirmed by the measurements of the medical man, Mr. Wells thinks that the bichloride of mercury with bark is often followed by remarkable diminution in the size of the growth—sufficiently often to place the remedy and the diminution in a closer relationship than accidental coincidence. Where there is much irregular bleeding, he agrees with Dr. McClintock in regarding chloride of calcium as of great value. He has suggested the calcification of the growth, or of the nutrient arteries, as a possible explanation of its *modus operandi;* but does not attach much importance to the question whether this may or may not be true, if the clinical fact is established that patients who have been losing much blood cease to do so after they have taken the chloride of calcium. The really important matter is to ascertain in what cases it will do good, and when it is useless. Where bleeding has more the character of menorrhagia—excessive loss at the regular menstrual periods, not irregular floodings—Mr. Wells has more confidence

in the *vinca major* than in lime, gallic acid, or ergot. He was told of it by Mr. Squire, and prescribes it in the form given in Mr. Squire's version of the *Pharmacopœia*, who now makes a liquid extract from the leaves of the plant, the well-known greater periwinkle of our shrubberies. The plant is so common that we hope much larger experience as to its use may soon be obtained. The surgical treatment of these tumours is beyond our present scope; but we may probably at some future time give some account of Mr. Wells' experience in this important department of practice.

Dr. W. R. Rogers is of opinion that the medical treatment of fibrous tumours of the uterus must be essentially palliative. It is, however, true that fibrous tumours will occasionally become absorbed under medical treatment, especially after the climacteric period has passed. The flow of blood to the uterus is greatly diminished by the cessation of ovarian excitation; the calibre of its vessels is gradually diminished; and the uterus, and especially the fibroid growths, may then be absorbed, the process being aided by the persevering use of iodine and mercury. Anasarca and ascites often accompany advanced states of fibrous enlargement of the uterus, but hæmorrhage is the principal danger to be met. Pain, whenever occurring, must be subdued by turpentine fomentations, warm poultices, and opium, in whatever way it can be most suitably administered. Anasarca and ascites accompanying fibrous enlargement of the uterus should be treated in the usual way, by purgatives, diuretics, and tapping. Hæmorrhage, when not severe, is to be treated by full doses of astringents, as sulphuric, gallic acids, and acetate of lead; ice, also, is often useful. Dr. Rogers has not sufficiently tried hot-water bags to say decidedly that benefit has resulted. Should these means fail to greatly diminish the loss, if not entirely to check it, he invariably plugs the vagina. In the intervals, purgatives of bitartrate of potash and jalap in full doses are used. Bichloride of mercury and decoction of ergot he has found of much benefit in some cases, and the persevering use of solution of chloride of calcium in others. Injections of iodine or solutions of iron after previous dilatation of the cervix have often materially checked hæmorrhages. In some cases free incision of the cervix, as advised by the late Sir James Simpson, will, he has found, arrest for a while and diminish the hæmorrhagic losses. The continuous current has been said to be successful in some instances, but he has never used it.

Dr. Routh, omitting all questions relating to local measures, such as the knife, injections, &c., speaks of the purely therapeutical treatment as being very effective. The remedies employed are bichloride of mercury, solution of chloride of calcium, bromide of potassium, compound tincture of ergot, strychnine, compound jalap powder, and purgatives generally; also electricity, iodine applied externally, and blisters. The use of these remedies, however, must be long continued. Dr. Routh has found benefit produced by bichloride of mercury in doses from one-sixteenth to one-twelfth of a grain night and morning with a little (a quarter of a grain) of belladonna, persisted in for a month at a time, then omitted a week or a fortnight, and resumed. This must be continued for a year, or even two, if need be. Solution of chloride of calcium, first recommended by McClintock, does some good. He begins

with ten drops, raising the dose to forty or sixty twice or three times a-day for a fortnight or three weeks, stopping a week or two, and then resuming. Every time he resumes it he begins with the smaller quantity, increasing the dose one drop daily. Bromide of potassium he gives in twenty-grain doses three times daily, or thirty-grain doses twice daily, without intermission, until an eruption occurs in the face; he then suspends its use for a few days, and again resumes it. The tincture of ergot and strychnia he gives in large doses, believing that they contract the uterus, and so impede nutrition, keeping up any diminution of size effected during a season of hæmorrhage, and causing thus, in the same way as when the uterus contracts after gestation, the absorption of the enlarged organ. Of purgatives given very freely, whether as adjuvants or singly, he thinks very highly. Dr. Routh had seen a large fibroid perfectly blue from congestion, and causing copious floodings at the periods, after a week's purging, diminish greatly in volume, and lose all its congestion, the bleeding being considerably diminished, and this with such purgatives as the ordinary *mistura alba*. He thinks, however, that those which contain the bitartrate of potash are best, such as the salt itself in two to four-drachm doses, or the compound jalap powder, half a drachm to a drachm three times a-week, assisted occasionally with mercurials to relieve the liver. The continuous current of high intensity he believes to be most effective in some cases. It seems to coagulate the fluids in the tumours, and to disturb their nutrition, so that they become absorbed. He has seen a tumour of the size of a man's head become as small as an orange in a year; but the disadvantage in this mode of procedure is that wounds are formed at the two poles which are very difficult of cure. Dr. Routh's plan is to place one pole in the spine and the other within the vagina and os uteri, guarding all but the extreme end with gutta-percha. Dr. Routh thinks very highly of blisters on the abdomen, and specially of compound tincture of iodine regularly applied night and morning, only suspending its use when the skin is too sore. He thinks that it certainly assists other measures. In his treatment of such cases he does not restrict himself to any one plan. Dr. Routh adopts two or three, together with local measures.

Adelaide Hospital, Dublin.—The cases of fibrous tumours of the uterus beyond surgical treatment which have come under Dr. Lombe Atthill's observation admit of being divided into two great classes—namely, those in which, from the absence of any prominent symptom, no treatment whatever is called for, and is, therefore, in his opinion, injurious; and those in which the presence of hæmorrhage or symptoms arising from the size of the tumour imperatively demand interference. Of the former class he has met with several instances; one especially has been under his observation for two years, in which the tumour is larger than the fœtal head at full term. This tumour does not give rise to any symptom, save the annoyance due to its weight. Such patients are often in feeble health, requiring the administration of tonics, iron, &c. Dr. Atthill believes that treatment directed to tumours of this class is often productive of positive injury. He has lost faith in the value of any drug administered with the view of causing absorption of fibrous tumours, and therefore he confines himself to treating such symptoms as may arise. Hæmorrhage is,

of course, usually the most prominent one. To check this, when not very profuse, he relies on the administration of ergot and gallic acid, and sometimes of alum in powder; or, if the patient be anæmic, tincture of digitalis and the solution of the perchloride of iron in ten-drop doses. He thinks that digitalis is a very useful agent in menorrhagia depending on any cause. He mainly, however, relies on the plug for the arrest of hæmorrhage in these cases. He first introduces a strip of cotton-wadding soaked in saturated solution of perchloride of iron in glycerine, a string being attached to it to facilitate removal; and then fills up the vagina with dry wadding, removing the whole in twenty-four hours, and replacing it when necessary. At the same time he administers the ergot, or iron and digitalis, as already mentioned. The abdominal bandage certainly often does good where the size and the weight of the tumour demand support, but as often fails to afford relief.

Sheffield Hospital for Women.—Dr. J. H. Aveling believes that, by medical treatment, *arrest* of growth, *atrophy*, and *displacement* of fibro-muscular growth, may be effected; and that we should not too hastily use the more dangerous surgical means until the therapeutical have proved of no avail. The remedies by which he endeavours to produce these three results are ergot and bromide of potassium. The bromide diminishes the flow of blood in the uterus by subduing ovarian excitation. The ergot effects the same mechanically, and, besides this, extrudes the tumour towards the peritoneal or mucous surfaces of the uterus. Less blood means less nutrition; and as the interstitial situation of the morbid body is that in which most hæmorrhage and pain occur, its removal to either surface is very desirable. Hæmorrhage may be lessened by persistently administering small doses of arsenic, but the plug is the best and most neglected hæmostatic in these cases, for besides offering a material obstacle to the escape of the blood, it produces, by its presence, contraction of the uterus. Pain may be relieved by rest on the back, or on the side with the legs drawn up; and in the upright position, by an abdominal belt. He also uses pessaries and suppositories of morphia and atropine, and orders the bowels to be kept free by means of copious cold-water injections. Dr. Aveling thinks that the causes which determine atrophy demand further and more careful investigation. A very slight interference will sometimes produce it; *e.g.*, parturition, tents, exploring needles, the electro-magnetic current, and, in a case under his care, the inflammation set up by attempting to rectify the position of the uterus with a sound.

Ladies' Charity and Lying-in Hospital, Liverpool.—Dr. Thomas Skinner has long ceased to have any faith in the absorption of tumours of a fibrous structure anywhere in the body, more especially when developed within the area of the genito-urinary region in the female. Among the many distinguished observers who sincerely believed in the possibility of such absorption, and where probably the wish was largely father to the thought, stands the honoured name of the late Sir James Simpson. Dr. Skinner has seen more than one of the cases which led him to this extraordinary conclusion, and from what he saw then, and from what he has seen since, he has no faith whatever in bromide of potassium or any medicinal agent, in small, heroic, or moderate doses, possessing the slightest power of absorbing or of causing in any way,

directly or indirectly, the absorption of fibrous or fibroid tumours of the uterus. The most flattering view which he can take of the phenomena is, that the *post hoc* has been mistaken for the *propter hoc*. The cases are so very few, so doubtful as regards their real nature, and the results so questionable, that it is remarkable that medical men of known probity, of undoubted genius, and of the highest standing, should found on them a rule of practice. That these tumours have periods of growth and increase in bulk and in hardness, and have a tendency to degenerate into cartilaginous, calcareous, and osseous substance, there can be no doubt. This is the rule. It is also true that they at times diminish in bulk. Their fluid contents—for they are often more or less cystic—become absorbed, and the accompanying local engorgement and general *embonpoint* are frequently similarly influenced by the local and general condition of the system. Pregnancy considerably influences such tumours, causing—according to the stage, condition, and *locale* of their development—sometimes enucleation, and much more rarely their atrophy or absorption. These are the exceptions, and are a part of the natural history of such tumours in which medicine plays a most insignificant part. There is, Dr. Skinner believes, only one legitimate course, and that is to attend to and keep up the vitality of the patient as near as possible to the standard of health. Like all parasites and abnormal growths, uterine fibroids thrive upon and have their origin in weakness and decay. "The more sound the health, the slower will be the growth of the tumour," was the rule of practice with Sir James Simpson; and it is, and has always been, that of Dr. Skinner. This can best be done, and can only be done, in the interval between the menstrual periods. Dr. Skinner cares not what the means are—their name is legion; and in a short account like this, it is impossible, he thinks, to point out even what is best, and the more so as every case must be taken upon its own merits, no two being the same as regards therapeutical indications. As regards pain and uneasiness from mechanical, vital, or inflammatory causes, they must be met by mechanical support, local and constitutional anodynes, regulation of the *primæ viæ*, especially by salines, and by antiphlogistic treatment when necessary. Hæmorrhage or menorrhagia accompanied with clots is the *pons asinorum* of our present difficulty. Dr. Skinner holds that all attempts to check the accompanying menorrhagia are in general both futile and mischievous. The drain is almost always salutary, and rarely destructive or dangerous, if the patient be unimpregnated. Any woman, the subject of a large fibroid, if asked how she feels when much or little poorly, will never fail to answer—"I am best in my general health when most poorly." Much more good, however, can be done, both locally and constitutionally, as prophylactic and curative of the accompanying symptoms in the interval, than can be done as curative or even palliative during the menstrual period—and, of a truth, much good can be done.

Aberdeen Dispensary.—Dr. Andrew Inglis has no faith in mercury, given by the mouth or applied externally, nor in bromides or iodides, as remedies for fibroids of the uterus; ergot, however, produces good mechanical results, either by bringing on absorption in some rare cases, or in others by procuring enucleation and expulsion. The latter effect is more common; but this he considers merely mechanical, assisting

surgical interference. He has a case just now of a large fibroid which eight or nine months ago suddenly began to shrink up, and has not produced any more unpleasant symptoms since; but this is not usual. The patient was given for several days large doses of ergot to stop severe bleeding. He has also another patient under care with a small tumour hanging out of the uterus; the neck is daily becoming smaller under the same treatment.

Art. 227.—*Treatment of Fibrous Disease of the Uterus.*

By W. Murray, M.D., of Newcastle-on-Tyne.

(*British Medical Journal*, April 22.)

Dr. Murray has used with success in one case an application of electricity by means of rods of zinc and copper spliced together lengthwise. These rods are about ten inches long, and pointed at one end, so that they can be made to pierce a fibroid. The tumour is thus transfixed by several rods, around each of which currents are established, and chemical action set up, so as to "destroy the vitality" (?) or "rouse the absorbents" (?) of the neighbouring tissues. After remaining in the tumour for some time, they become, as is the case with Simpson's galvanic uterine stems, coated with oxide of zinc, and leave the tissues in a soft pulpy state. Dr. Murray has had one case in which a very large mass was considerably reduced in this way in less than a month. The amount of pain and inconvenience produced, it is stated, is very slight indeed.

Art. 228.—*On Some Forms of Enlargement of the Uterus.*

By L. Atthill, M.D.

(*Medical Press and Circular*, December 28, 1870.)

At a meeting of the Dublin Obstetrical Society, on December 17th, Dr. Atthill read a paper on Some Forms of Enlargement of the Uterus. After passing an encomium on the uterine sound, which he considers to be not only one of the most useful, but also the safest instrument we possess, if carefully and skilfully used, he proceeded to say that enlargement of the uterus was met with in a very large percentage of those cases in which the symptoms are referable to the organs of generation in the female, a condition easily explicable when the great change which takes place in the uterus under the influence of pregnancy, and even, in a degree, at each menstrual period, is borne in mind. The following, apart from the actual existence of pregnancy, are the causes to which most frequently enlargement of the uterus is due, namely, to—

1st. Sub-involution of the uterus after pregnancy, or abortion.
2nd. Congestion of the uterus from sudden suppression or retardation of menstruation.
3rd. Acute inflammation of the uterus, or its peritoneal covering.
4th. Chronic inflammation of the uterus.

5th. Hypertrophy of the uterus.
6th. The stimulus given to the uterus by the presence in its walls of fibrous tumours.
7th. The existence of any form of intra-uterine tumours.

With respect to sub-involution, it was very frequently met with, being a condition specially likely to occur in cases in which any form of pelvic inflammation follows delivery. It may also occur after abortion. The earliest symptom of sub-involution, and the most common is, undoubtedly, menorrhagia, a symptom nearly invariably present. Dr. Atthill, however, narrated a case of sub-involution of the uterus, in which amenorrhœa existed The uterus in this case was very large, the sound penetrating to the depth of five inches. This patient was perfectly cured, the treatment adopted being the introduction up to the fundus of the uterus of eight grains of the solid nitrate of silver, which, dissolving, stimulated the whole of the inner surface of the uterus, and caused healthy interstitial absorption to be set up. Dr. Atthill advocated this plan of treatment in cases of enlargement of the uterus depending on sub-involution. The occurrence of enlargement of the uterus from sudden suppression of menstruation was next dwelt on; the occurrence of this form of enlargement is difficult to verify. Dr. Atthill, however, stated that he believed it to take place not unfrequently, and gave the particulars of a case in which the measurement of the uterus, by means of the sound, proved this to be so. All writers mention the liability of the uterus to enlarge during an attack of acute inflammation of that organ. The correctness of this was confirmed by the details of cases in which, by the introduction of the sound, the increase in size and subsequent diminution was proved, in instances both of metritis and peritonitis. Chronic inflammation of the uterus appears to be a very common cause of enlargement of the uterus, and gives rise to much distress. It is often associated with retroflexion, not unfrequently being the cause of that displacement. Menstruation was stated to be, in the writer's opinion, generally much diminished by the occurrence of chronic inflammation. Of all the cases of enlargement of the uterus, simple hypertrophy of the muscular tissue of the uterus is that giving rise to the greatest amount of distress, and the form least capable of being benefited by treatment; in it menstruation occasionally becomes painful, sometimes scanty, but seldom, if ever, increased in quantity. Cases illustrating this, and each of the other forms of enlargement of the uterus, were detailed and commented on, and the paper concluded with some general observations on treatment. The consideration of the other forms of enlargement of the uterus being deferred to some future occasion.

Art. 229.—*Puerperal Convulsions Treated without Bleeding.*

By J. J. Phillips, M.D.

(*Guy's Hospital Reports*, 3rd Series, vol. xvi.)

Dr. Phillips places on record eight cases of puerperal convulsions (most of which occurred in the Guy's Lying-in Charity), which possess

some interest, as illustrating the results chiefly of one general plan of treatment. In no case was any blood withdrawn, while in nearly all chloroform was given.

The cases are too few in number to warrant conclusions being drawn from them alone. Evidence is, however, accumulating in favour of chloroform; and Dr. Phillips submits the following propositions, which are, he thinks, supported by theoretical considerations and practical experience:—

That bleeding has no claim to be regarded as a remedy for puerperal convulsions; and that in the majority of cases at least, if seen at an early period of the attack, it is unnecessary. That bleeding is often injurious, by predisposing to various puerperal ailments, by retarding convalescence, and sometimes by increasing the violence of the paroxysms. Also that the present diminished mortality is probably chiefly due to the less free depletion which is now practised. That the chief reliance should be placed on chloroform which prevents the recurrence or diminishes the violence of the paroxysms. That in mild cases it is sufficient to keep the patient very slightly under the influence of chloroform in the intervals, more being given when indications of a fit are seen; but that in severe cases the patient should be kept for a time uninterruptedly under its influence. That if the convulsions have already produced much pulmonary congestion, it is beneficial to withdraw a few ounces of blood before administering chloroform; and that generally it is advisable to lessen the tendency to cerebral congestion by the application of cold to the head.

That it is rarely necessary to interfere with labour before the os uteri is dilated, or in those cases where the convulsions precede labour; but that it is usually expedient in the second stage to complete delivery, due regard being had to the condition of the uterus.

ART. 230.—*A large Fibrous Polypus implanted on the Cervical Portion of the Neck of the Uterus and Forced into the Vagina; a second and smaller Polypus arising from the Fundus Uteri; the Patient twenty-one years of age; Operation.*

By Dr. ABEILLE.

(*Gazette Médicale de Paris*, No. 15, 1871.)

"The patient was a pale and anæmic young woman, aged twenty-one years. She stated that before her illness she had been strong and healthy. The condition of emaciation to which she had been brought presented a strange contrast to the description of her previous state of health.

"Almost three years before coming under my notice she suffered without any appreciable cause from pains in the lower part of the abdomen which compelled her to lay up; at the same time the menses appeared prematurely and lasted in great abundance for ten days. The abdominal pains were accompanied by fever and vomiting After

three weeks' rest things became right again, but from this time the menstruation, which took place regularly, presented an hæmorrhagic character, and at each epoch was preceded by pains in the region of the uterus.

"At the end of two years, as her health had been much impaired by the frequent repetition of these symptoms, the patient came from Baltimore to France for change of air. In May, 1869, she went to Switzerland with the hope of retrieving her exhausted strength. She improved somewhat in this climate, but the menses did not cease to be hæmorrhagic. In October they became irregular, and more and more abundant. She was treated by several physicians in succession, but with no advantageous results.

"On her return to Paris, at the end of October, she had become so anæmic that she could scarcely walk. The medical man who was then called in exhausted in vain all therapeutical resources. He did not venture, on account of the patient's age, to make any local examination. The hæmorrhage at that time was almost constant. Another medical man administered ergot, which caused severe uterine pains and vomiting; the bleeding then became constant, and the patient was so weak that she could not get up.

"After the refusal of the family to permit the last medical attendant to make an uterine examination I was called in. On learning the history of the case, and finding myself in the presence of a young woman who had arrived to an extreme degree of anæmia, I flatly refused to give any prescription before assuring myself as to the condition of the uterus. I declared freely that the symptoms could only be accounted for by the presence of an intra-uterine polypus. The family demanded twenty-four hours for consideration. I prescribed some simple lemonade and uterine injections of perchloride of iron. The explosion of uterine pains under the influence of ergot, and the subsequent continuous flow of blood, associated with the state of complete inertia of the uterus, led me to the presumption that a fibrous tumour had been expelled from the uterine cavity into the vagina, and that the neck, kept open in consequence of the implantation of the pedicle, permitted a constant discharge of blood.

"On November 25th, after much hesitation on the part of the family, I proceeded to make a local examination. The hymen still existed in its integrity, and did not permit without difficulty the introduction of the index finger. The examination, though very difficult, enabled me to make out the presence of an evidently large polypus in the cavity of the vagina. An operation was declared to be necessary, but was put off until the following day.

"On November 26th, after the patient had been placed upon her back, I divided the hymen upwards and downwards with scissors, in order to remove this obstacle to future operative manœuvres. I immediately introduced my index finger into the vagina, where I was able to pass it round a large polypus, softened in consequence of commencing putrefaction, and the pedicle of which, about the size of one's finger, was inserted into the left portion of the neck of the womb, and around which, on exercising some traction, the neck became closely applied.

"After having attempted in vain, in consequence of the softness of

its structure, to draw out the polypus by means of forceps, I slipped along the left index finger, which had been introduced into the vagina, a pair of long-curved scissors, and with one stroke divided the pedicle. The scissors having been withdrawn by the index and middle fingers of the left hand, these fingers were again introduced and passed behind the tumour, which was then forced outwards and expelled. It was of about the size of a hen's egg, it had a bad odour, was of a violet colour, and its tissue near the periphery was friable.

"On introducing the left index finger in order to explore the uterine cavity a second fibrous body was discovered; this was of the size of a large nut, and was fixed by a pedicle of the size of the middle finger, to the central portion of the fundus uteri.

"As it was impossible to carry a ligature around this tumour in consequence of the slight development of the uterus, I decided upon introducing a pair of toothed forceps, by gliding the instrument along the index finger, the extremity of which was placed between the pedicle and the wall of the uterus. By means of the forceps introduced in this manner, and with the teeth separated and directed obliquely upwards, I was able, by making graduated compression, to divide the pedicle near the wall of the uterus for about half its thickness. This having been done I withdrew the forceps and substituted a pair of long-curved and blunt scissors. As soon as the point of these had been brought in contact with the pedicle, I executed with them a rotatory movement from below upwards, in such a fashion that their concave surface, situated below the polypus, was subsequently carried above the growth and their blunt extremity in contact with the fundus of the uterus; then by elevating the handles at the same time that the blades were separated, I was able to seize the undivided portion of the pedicle, and by gentle pressure to complete the section.

"After withdrawing the scissors, the index finger of the left hand still being retained in the uterus, I introduced along this finger a pair of forceps with blunt and spoon-shaped extremities; with this I was able to seize and withdraw the polypus.

"An examination of the uterus permitted me to form a good judgment as to the complete section of both pedicles, but at the same time it enabled me to make out the presence of a kind of prominent stump on the uterine mucous membrane at the fundus of the organ.

"Still keeping my finger in the uterine cavity, in order to maintain dilatation of the neck, I had three cylindrical cauteries heated, and then rapidly introduced a speculum, taking care to push forcibly backwards the vaginal cul-de-sac, in order to keep the neck well opened. I was then able to cauterize the stump at the fundus, to which were applied two cauteries at a white heat; the third cautery was applied to the stump of the pedicle, which had been divided at the cervical portion of the uterus. These cauterizations seemed to me to be absolutely necessary, in order to guard against a probable return of the growths.

"The patient, during these prolonged and difficult manœuvres, was frequently attacked by commencing syncope, which we were always able to drive off.

"On the 27th the patient was restless, but did not complain of pain.

"On the 28th and 29th there were som uterine pains, which were

relieved by the application of opiated cataplasms. There had not been the least show of blood.

"On the following day the patient was able to take a suitable diet with wine. There was no loss of blood, but simply a puriform discharge, resulting from the uterine cauterization.

"The patient remained for thirty-five days before the return of the menses. The menstrual discharge then lasted for twelve days, but was not too abundant. It was probable that the uterine wounds, resulting from the cauterization, had not completely healed. A subsequent utero-vaginal examination permitted me to make out considerable retraction of the uterus and exact closing of the neck. The patient was actually restored; she had regained a part of her strength, and was able to go out as if she had never suffered from any indisposition.

"*Observations.*—Three points are worthy of remark—the age and position of the patient; the necessity of objectionable mutilation; the operative manœuvres for relieving the uterus of the two fibrous growths.

"It is a very rare event to see intra-uterine polypi at so early an age. In cases of this kind the medical attendant has good reasons for hesitating to demand a local examination. One sees how delicate are all these circumstances which are to be contended against when the patient is in imminent danger.

"In regard to the operative manœuvres, it is evident that notwithstanding the extremely delicate nature of the situation in relation to ulterior consequences, and with the alternative of losing the patient or sacrificing a position, the physician ought to do what is necessary for the safety of the patient; if the integrity of the hymen renders any operation impossible this membrane must be sacrificed.

"It will be noticed with what facility I was able to divide the pedicle of the second polypus at the fundus of the uterus; it was this growth that had caused the continued hæmorrhage; the first polypus had commenced to putrify, and would soon have been detached spontaneously.

"Finally, the boldest manœuvre was cauterization with heated iron of the stump at its point of insertion. This proceeding I have recommended for the last two years, as it seems to me to be indispensable.

"It is very evident that a cylindrical bar of iron, and, with stronger reason, two, when brought to a white heat, and introduced successively into the uterus and applied to the fundus, would cauterize the mucous membrane lining the neck, and a portion of that lining the uterine cavity, before the stump itself is attacked. Still in this case the cauterization did not give rise to the smallest accident."

Art. 231.—*On the Use of Atropia in Eclampsia (Puerperal Convulsions.)*

By Dr. Milesi, of Vilminore.

(*L'Imparziale, Firenze,* 16 Luglio, 1870; and *British and Foreign Medico-Chirurgical Review,* April.)

Dr. Milesi having obtained three years ago a successful result in a case of eclampsia, by the use of atropia, he employed the remedy in another case more recently and with the same success. He gives the

details, by which it appears that the patient was attacked a few hours after her confinement with convulsions which were repeated at intervals of about an hour between them, and she had also severe headache. Dr. Milesi bled her and took away a pound of blood, after which she said that her head was better; but the pain soon returned, and leeches were applied to the head. The convulsions, however, continued as frequently and as violently as before, and coma supervened. Dr. Milesi, finding that the antiphlogistic treatment was of no avail, prescribed an injection of atropia dissolved in water by means of alcohol, the proportions being 3 centigrammes of atropia in 280 grammes of water (a gramme is about 15 grains) to be divided into 4 injections. The convulsions and coma still continued, but the convulsions were at less frequent intervals and of shorter duration, and eventually the patient quite recovered, although it should be mentioned that Dr. Milesi bled her again to the extent of a pound of blood. This is the same patient who had been treated by atropia for the same disease by Dr. Milesi on a previous occasion. Dr. Milesi, in summing up the particulars of the treatment and its results, doubts the utility of bloodletting in puerperal convulsions, and considers atropia as a powerful and efficacious remedy in relieving the paroxysms.

Art. 232.—*On Puerperal Eclampsia.*

(*American Journal of the Medical Sciences*, April.)

The writer of this very able article draws the following conclusions from a summary of all the information he can discover, having reference to the origin and course of puerperal convulsions:—

1. That convulsions are centric or eccentric.
2. That determination of blood to the head, although productive of a comatose state, is not the cause of convulsions.
3. That convulsions follow directly the loss of blood on stoppage of the circulation of the brain.
4. That the whole motor nervous tract is involved in the production of convulsions, and that other portions of the brain are not directly instrumental in producing them.
5. Convulsions are consequent to the abstraction of nutrition in the motor portion of the brain.
6. Anæmia predisposes to convulsions.
7. That anæmia is produced by albuminuria, and connected with this is dropsy.
8. That the blood in albuminuria and dropsy is deprived of its nutrient elements and becomes hydropic.
9. That the constitution of the urine corresponds to the constitution of the blood, and the amount of urea in it is in accordance with that formed in the blood.
10. That neither urea nor carbonate of ammonia in the blood constitutes the cause of convulsions.
11. That in albuminuria the predominant symptoms are stupor and coma.
12. That albuminuria is to be regarded in the same category of diseases as hæmorrhage.

13. That from the constitution of the blood in pregnancy and especially when its hydropic condition is increased by albuminuria, there is engendered an especial aptitude to the occurrence of convulsive attacks, which has been called *convulsibility*. This depends upon altered nutrition in the nervous centres.

14. That puerperal eclampsia and epilepsy are analogous affections.

15. That the mechanism of convulsions involves the production of syncope, which depends upon the suspension of the heart's action, and that this occurs through the instrumentality of reflex action, by shock or by loss of blood.

16. That the carbonic acid of venous blood is not the originating cause of convulsions.

17. That the order of convulsive movements is progressive, from above downwards. Syncope and loss of consciousness constitute the first symptoms; secondly, convulsions begin in the muscles of the eyes and face, and then occur in those of the larynx, throat, chest and extremities; thirdly, when laryngismus is complete asphyxia is produced, and the convulsions are suspended by coma.

18. That if air be gradually introduced into the veins of an animal, asphyxia is produced, and no convulsions occur; but if introduced suddenly, so as to distend the right side of the heart and prevent its contractions, convulsions immediately follow. The same is the case with oxygen, carbonic acid, and other gases.

19. When air and other gases are introduced into the carotid arteries, in amount sufficient to produce pressure, apoplectic symptoms are the consequence. But if air or carbonic acid in quantity capable of being absorbed by the blood be introduced, its presence is tolerated by the brain.

20. That carbonic acid is irrespirable, and positively stupefying when inhaled, hence asphyxia can be produced by it.

21. That when asphyxia is produced in one course of convulsions by the impediment to respiration, and the blood becomes completely venous in the lungs and circulation, it, in connexion with the pressure induced by impeded respiration, terminates the attack by a species of narcotism. In this way convulsions are self-limited.

Art. 233.—*Operation for the Cure of Prolapsus Uteri.*

By Graily Hewitt, M.D., F.R.C.P., Professor of Midwifery and Diseases of Women, University College Hospital.

(*The Lancet*, April 29.)

Dr. Graily Hewitt's operation for the cure of prolapsus uteri consists in removing from the perineal end of the posterior wall of the vagina a triangular portion of mucous membrane, of which the apex is towards the uterus, and the base at the posterior commissure of the vulva. In the present instance, an operation performed two months previously had succeeded so far as regarded the vaginal mucous membrane, but, union having failed to take place between the edges of the base of the triangular wound, the constriction of the vaginal orifice, which was the main object in view, had not been effected. Dr. Hewitt pared the edges

of the posterior half of the orifice, and brought them together by means of two deep interrupted sutures of strong metal wire, and three superficial sutures of finer wire inserted within the deep ones. The deep sutures were secured by means of a small apparatus which Dr. Hewitt calls a "bead." It is made of ebonite, is gourd-shaped, and consists of a body and an expanding neck, of which the former is as large as a full-sized pea. When the suture is inserted a bead is strung on at either end, with the neck outwards; and while it is pressed against the labium with one hand with the proper amount of force, it is fixed in position by winding round its neck, with the other, the projecting extremity of the wire suture. Dr. Graily Hewitt claims for the beads that, their action being more defined and local than that of portions of bougie, they have not the same tendency to maintain, in the included lips of the wound, a state of congestion which is unfavourable to healing, and has in some instances produced sloughing.

Art. 234.—*On the Function of the Perineum in Procidentia Uteri.*

By J. Matthews Duncan, M.D., &c.

(*Edinburgh Medical Journal*, February.)

Dr. Duncan's object in this paper is, *first*, to show that laceration of the perineum is not, in any strict sense, a cause of prolapsus or procidentia; *second*, to point out what influence laceration of the perineum exerts in this disease; *third*, to show what is the value of restoration of the perineum.

"I. *Laceration of the perineum is not a cause of prolapsus or procidentia uteri.*—No one, so far as I know, has explicitly ascribed to the perineum any part in the maintenance of the uterus in its natural position. This is very remarkable, considering the great combination of authorities that can be adduced, who, by ascribing procidentia to laceration of the perineum, thus evidently imply that it has some power to maintain the uterus in its natural site. To prove that it has no such power, I rely upon the following arguments:—

"In several cases of complete destruction of the perineum, the laceration extending backwards through the whole of the sphincter ani, which have come under my notice, and on which I have operated, there has been no example of prolapsus of the uterus complicating the laceration; and the great majority of them has been observed in poor, hard-working women. The perfection of laceration has been present, and its influence has been supplemented by those of childbirth and hard work, and, notwithstanding, prolapsus has in these cases not taken place.

"I have seen a large procidentia in a young girl, who had never menstruated, whose perineum was entire, and whose hymen was not ruptured at its posterior part. Cases of this kind are not extremely rare. The perineum is perfect, and yet the accident occurs.

"Numerous cases have come under my notice, in virgins and in sterile women, where the integrity of the perineum did not prevent procidentia.

"In the majority of the numerous cases of procidentia which come under my notice, the perineum is either entire, or not more injured than it is in the great mass of women who have borne a child.

"I have no doubt that if, by way of experiment, the perineum was cut through in a healthy woman, no tendency to prolapsus would be thereby produced.

"In judging of the state of the perineum in cases of procidentia, it is necessary to guard against a great source of delusion. In all there is, at first sight, an appearance of destruction of the perineum. Its antero-posterior dimension is always greatly curtailed, and this even in cases where it is perfectly entire, and where the hymen can be seen to be only injured and changed, not divided. The large bulky procidentia pressing on the anterior margin of the perineum distends it, softens it, and pushes it back towards the anus, destroying its antero-posterior dimension, much as the body of the child does after the birth of the shoulders.

"II. *The influence of laceration of the perineum in procidentia uteri.*—While I have already given good reasons for believing that the perineum has nothing to do with the maintenance of the uterus in its natural position, and that laceration of it has no causative influence in the production of procidentia, there can yet be no doubt that laceration of the perineum favours or accelerates the occurrence of procidentia in cases where the causes of this accident are in operation. The study of this point brings out the function of the perineum in this disease.

"The uterus, morbidly propelled through the pelvis by the causes of prolapsus, comes at length to press upon the perineum, slightly distends it, advances along it, reaches the orifice of the vagina, protrudes through it, and is at last procident. It is evident, at a glance, that if this long course through the pelvis and over the perineum to the vaginal orifice is in any way shortened in its latter part, the sooner will the procidentia occur. To arrive at this stage of procidentia, the uterus has to go through a shorter course, and is therefore earlier procident. Now, laceration of the perineum abbreviates the latter part of the path of the uterus just described. It does not produce prolapsus—that is owing to quite other causes; but it abets such causes by removing difficulties which otherwise would have to be overcome. These difficulties lie not only in the length and resistance of the perineum, but also in the smallness and tightness of the vaginal orifice.

"A comparison with some of the phenomena of natural labour appears to me to be both just and illustrative. Just as the perineum is not a source of any of the forces which concur to produce the birth of the child, so it is in procidentia of the uterus. But though this is the case, its laceration makes the birth of the child more rapid and more easy; it secures a shortening of its course and an easy exit through the enlarged vaginal orifice. Just as a woman with laceration of the perineum will have the progress of a prolapsus to complete procidentia accelerated and facilitated in its latter part, so a woman in labour, who has previously had an extensively lacerated perineum, is liable to a precipitate birth.

"III. *The use of restoration of the perineum.*—I do not purpose here to describe the operation of renewing the perineum. I shall merely say that it is an operation I have frequently performed with much advan-

tage. My object is to give what I believe is the correct theoretical statement of its use and value. There are other surgical appliances, especially the padded T bandage and the vaginal pessary, which are also of great use and value in the treatment of cases of procidentia. To these I shall have to refer.

"It is a great mistake to suppose that a perineum, however renewed, removes any cause of prolapsus or procidentia. The causes of that displacement are all still present. The perineum is restored in order to resist the progress of the descending uterus. It may or may not succeed in doing so. This will depend on the force with which the uterus is propelled, and the force which the renewed perineum is capable of offering in resistance to it. In many cases the resistance offered by the new perineum is insufficient; it yields, and the uterus becomes again procident. The birth of a child may relax the renewed perineum without lacerating it, and thus, destroying its resisting power, may lead to a return of the procidentia; or, repeated childbearings may take place before the return of the procidentia.

"Restoration of the perineum is not a cure of procidentia. It deserves in some sense this name only when its rigidity is such as to be sufficient effectually to oppose the progress of the uterus trying to force its way over it. This opposing power may be increased by the pressure exerted on it by the pad of a T bandage; or even a pessary may be further called in to assist in keeping back the propelled uterus. If one resistance to the advance of the uterus is not sufficient, another may be tried, or a third, or their forces may be variously combined to produce the desired result.

"Here, again, the analogy of childbirth is very exact and illustrative. The child, like the prolapsing uterus, is propelled against the perineum. If the perineum is rigid, or if the propelling force is not great, the progress of the child may be arrested by the strength of the perineum. But, just as in most cases of prolapsus, continued propelling impulses at last cause the child's head to distend the perineum, and burst through the vaginal orifice. On the other hand, the powerful palm of the accoucheur pressing on the perineum may be sufficient to arrest the progress of the child. In the same way, the pad of the T bandage supporting the restored yet too weak perineum, in a case of prolapsus, may be a sufficient addition to the resisting power of the perineum, and co-operate in effectually arresting the descending progress of the uterus.

"The T bandage may not be efficient without restoration of the perineum, because without this there may be no part appropriate to receive the pressure of the pad of the bandage. The pad may be inefficient when pressing against the vaginal orifice, from the want of the aid of the restored perineum, and from the inappropriateness or inefficiency of the pressure. The advantage of having a perineum to receive the pressure of the pad of the T bandage, I have illustrated repeatedly to my pupils by the following rude analogy, in which the door stands for the renewed perineum, the intruder for the uterus, and the pad of the bandage for the owner of the house. It will be easier for the owner to keep the intruder out of his house, if his efforts are merely required to keep a door shut, than if there were no door, but an open passage; and

this is true, even though no aid is got from the fastenings of the door, such as is got from the power of a renewed perineum.

"Lastly, it is easy to understand that that method of restoring the perineum is to be preferred which ensures to it the greatest degree of strength or rigidity."

ART. 235.—*Procidentia Uteri—Operation—Use of Perineal Pad—the Value of Pessaries—Origin of Uterine Ulcerations in such Cases.*

Under the care of Dr. J. MATTHEWS DUNCAN.

(*The Medical Times and Gazette*, December 24, 1870.)

The following case is reported by Dr. J. R. Hardie:—

H. S——, aged thirty-two, married, admitted into the Royal Infirmary, Edinburgh, November 4, 1870.

Complaints.—Pain in the hypogastrium, and falling down of the womb. The pain in the belly is felt only when the uterus is prolapsed.

History.—Since the birth of her only child, three years ago, patient has never enjoyed good health. A few months after delivery she began to be troubled with bearing down; this gradually increased until about two years ago, when her womb came down outside the vulva. For the last eight months the uterus has continued to fall down between her thighs whenever she assumes the erect posture. During the last two years patient's monthly periods have been irregular, and she has for that time been subject to a white discharge. Pessaries of various shapes and sizes have been used in attempting to support the womb, but with unvarying failure.

Physical Examination.—The neck of the uterus projects considerably beyond the vulva; it is hypertrophied; the fundus uteri is scarcely displaced. The uterine sound enters five inches. Patches which exhibit some of the appearances of ulceration are to be seen on the mucous membrane of the protruding cervix uteri; some of these are covered with a greyish-white pellicle. An ovary is felt at the lowest part of the recto-vaginal pouch.

Treatment.—The procident uterus was returned, and patient was ordered to lie still in bed. The apparently ulcerated patches gradually disappeared, and on the 14th none were visible, when Dr. Matthews Duncan denuded the edges of the labia on a level with the meatus urinarius, and brought them together by means of metallic sutures.

Progress of the Case.—November 23: The stitches were removed to-day; the parts operated on were found to be firmly united. Patient's bowels, which had been constipated since the operation, were opened by medicine. A ⊤ bandage, provided with a perineal strap and pad, has been procured for her, to be used when the condition of the parts will allow of it.

Remarks.—In proposing to elongate the perineum, Dr. Duncan observed that that operation alone would be useful only for a short time; the uterus would certainly distend the perineum, and ultimately become procident as before; but by means of a ⊤ bandage, with a perineal pad so adjusted that the perineum is supported by it, the object

sought for is generally attained. When these means are unsuccessful, a pessary may be used in addition. In minor degrees of descent Dr. Duncan said that the great rule for the use of pessaries was to use them as little as possible, because of their tendency to distend and irritate the vagina; attention to the general health, cold bathing, and a mildly astringent injection being what he recommended in these cases. When forced to have recourse to pessaries, the disc and stem, and a modification of Hodge's, made of block tin, were the forms he preferred. In alluding to what appeared to be ulcerations on the procident uterus, he pointed out that the notion ascribing them as due to urinary irrigation or friction of the thighs was incorrect, because these patches were situated on parts inaccessible to either influence. Dr. Duncan maintains that they are not ulcerations at all, but due to a kind of diphtheritic inflammation—a view which is verified by watching them after they are returned and retained in the vagina.

Art. 236.—*On Prolapsus and Elongation of the Uterus.*

By Robert Barnes, M.D., Obstetric Physician and Lecturer on Midwifery and Diseases of Women and Children at St. Thomas's Hospital.

(*British Medical Journal*, January 7.)

The use of the fingers and the uterine sound will make it clear to demonstration that the cases of apparent prolapsus uteri are divisible into two classes. In the first class, the prolapsus is real as well as apparent. Enveloped in the protruded inverted vagina, the entire uterus may be felt; its whole contour may be surrounded by the fingers; and the sound, passed through the os, further determines with exactness the size and position of the organ. It is of normal size, perhaps less; and it is almost always retroverted. This form is observed most frequently in elderly women who follow laborious occupations. It is a joint product of senile atrophy of tissue, and of expulsive force acting upon the contents of the pelvis. As the uterus is driven down, the cervical portion, being attached to the base of the bladder, is relatively the fixed centre of rotation; whilst the fundus, compelled to follow Carus' curve, describes a circle round its os, so that at the outlet the fundus looks backwards.

In the second class of cases the prolapsus is only apparent. There is the hypertrophic elongation of the uterus, chiefly but not exclusively involving its neck, of Cloquet, Cruveilhier, and Huguier. This condition almost always arises during the child-bearing period of life, and in women who have borne children. It is a result of chronic endocervicitis, mainly promoted, but not necessarily so, by laborious occupations. The body of the uterus maintains its normal elevation and direction, or nearly so; whilst the supravaginal portion of the cervix, growing downwards, carries with it a reflection of the vagina, which forms the covering of the apparent prolapsus. Of course, this elongation may be met with at any stage of its progress. In the early stages, before it appears beyond

the vulva, the lips of the os uteri are everted, gaping. The sound will always measure accurately the extent of the elongation. It is a remarkable fact, which Dr. Barnes has often demonstrated clinically, that the extreme elongation is five inches—*i.e.*, exactly double the normal length of the uterine cavity. The fingers compressing the protruded portion will trace the elongated cervix as a firm cylinder, feeling like cartilage, through the reflected and thickened vagina, up into the pelvis.

Art. 237.—*New Form of Inflatable Pessary for Retroversion of the Uterus.**

By Dr. Keiller, M.D.

(*British Medical Journal*, October 1.)

Dr. Keiller exhibited a pessary made of vulcanized india-rubber, which he had found useful in retroversion and other displacements of the uterus. It was of pyriform shape, and only partially inflatable at its upper extremity; its lower and narrow end being uninflatable, so as to give the required support, especially in cases of defective state of the perineum. Dr. Keiller also exhibited an instrument which had been introduced and recommended to the profession by his friend Dr. Charles Bell as presenting advantages which other forms of pessaries had not. It is composed of a steel band an inch broad, covered with leather, which encircles the pelvis and buckles behind, and having a heart-shaped plate of the same materials in front, corresponding to the mons Veneris. To this plate the second part, which consists of a globe-shaped wooden pessary an inch in diameter, is appended by means of a narrow piece of German silver nine inches in length, which is rounded at one end and screwed into the pessary, while the other end is flattened and screwed in a socket by a screw-nail. By this arrangement it can be lengthened or shortened according to circumstances; and, the stem being pliable, it is easily bent so as to place the pessary in the axis of the pelvis. At the same time, it is of sufficient strength to give firm and uniform support to the uterus; and when it is properly adapted to the pelvis, it gives no uneasiness, and does not interfere with the due performance of the functions of the pelvic organs. It never alters its position when properly fitted, and it is easily introduced and removed by the patient herself; and it ought to be removed every night.

Art. 238.—*Causes of Early Cessation of Menstruation.*

By Edward John Tilt, M.D.

(*Change of Life*, 3rd edit. London. Pp. 296.)

In speaking of the causes of early cessation of menstruation, or premature ovarian paralysis, Dr. Tilt says, on careful consideration of forty-

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* Abstract of a Paper read at the 38th annual meeting of the British Medical Association at Newcastle-on-Tyne.

nine cases wherein menstruation ceased suddenly from the twenty-seventh and thirty-ninth year inclusively, he was unable to detect anything peculiar to their constitution, with the exception of eight, whose strength was below the average. None of the forty-nine had married too early or were addicted to prostitution, which have been erroneously given as causes of early cessation by Meissner. They were not unusually subject to profuse menstruation, as asserted by Gardanne. They were not more than usually affected with disease of the reproductive organs, as stated by Meissner; neither did the diminished extent of the menstrual function indicate less reproductive power, for the average amount of children was a little more than three in the twenty-six out of the forty-nine women who were married. If women of the same family sometimes cease to menstruate at the same age it may be a coincidence, but Dr. Tilt has repeatedly known sisters to cease to menstruate at the same time of life. He attends two out of seven sisters; they all first menstruated from the tenth to the thirteenth year, and in all menstruation ceased about the fortieth year. Dr. Meyer has found, on comparing women of the lower and higher classes, that menstruation came later and ceased earlier in the lower classes, while in the upper classes menstruation came sooner and ceased later. Out of the forty-nine cases in which the menstrual flow was suppressed from the twenty-seventh to the thirty-ninth year, in twenty-seven Dr. Tilt found sufficient cause to explain the fact, as will be seen from the following table:—

TABLE IX.

Causes of Early Cessation in Twenty-seven Women.

Nature of Cause.	No. of Women.
Parturition and lactation	3
Miscarriage	1
A fall on the sacrum during menstrual flow	2
Suppression of menstrual flow from frost or intense cold	2
Bleeding from the arm at a menstrual period	1
Getting wet through during a menstrual period	1
Violent purging, the result of medicine	2
Cholera	2
Rheumatic fever	2
Bronchitis, with fever	2
Fright	9
Total	27

ART. 239.—*Bromide of Potassium in Leucorrhœa.*

By A. H. KINNEAR, M.D.

(*Chicago Medical Journal.*)

Dr. Kinnear reports twelve well-marked cases of leucorrhœa, none of which were of less than six months' standing, where bromide of potas-

sium was administered with excellent success in doses of grs. xx twice a day. Under this treatment the disease yielded in a majority of cases in one month. He also gave the remedy in a case of gleet, which resulted in a perfect cure in the course of a week.

Art. 240.—*Cases of Successful Treatment of Uterine Catarrh by Internal Application of Carbolic Acid.*

Clinical Remarks by Dr. W. Playfair, at King's College Hospital.

(*The Lancet*, July 2.)

In a large proportion of old-standing cases of uterine catarrh it is hopeless to expect a permanent cure by any means which do not act directly on the seat of the disease, which is the lining membrane of the cavity of the uterus and cervical canal beyond the external os; accompanied, of course, with secondary morbid states of the body of the uterus and cervix, such as hypertrophy, congestion, &c. Rest, applications to the exterior of the cervix, and general treatment will unquestionably cause a temporary improvement, but on a recurrence to the old habits of life all the old symptoms return. There are serious objections to intra-uterine injections, unless the os is first dilated with laminaria tents, as they are apt to bring on severe uterine colics. By means of fine probes of whalebone or flexible metal, round which a thin film of fine cotton-wool is wrapped, alterative applications can readily be made to the interior of the uterus, without pain or danger. In the very numerous cases in which this plan of treatment has been carried out, in no single instance has anything but the greatest benefit accrued. It is no doubt advisable to select the cases judiciously, and where there is much uterine tenderness, intra-uterine treatment should be postponed until this has been diminished by rest, leeching, &c.; but with proper precautions the treatment is perfectly safe. A concentrated solution of carbolic acid, eighty parts to twenty of water, is used; and it acts so well that for a long time nothing else has been employed. After the first application the discharge is sometimes increased, but after the second or third it is generally greatly diminished, and a single application is often sufficient to cure superficial erosions of the cervix. As a rule, there is no difficulty in passing the probes, as in true uterine catarrh the os is invariably patulous. As the case improves the patulous state of the os diminishes, and this is found to be one of the most certain signs of improvement.

The following cases are selected, not because they present any peculiar features, but because each of them had been assiduously treated for lengthened periods by the ordinary methods employed, and without permanent relief, while they were rapidly cured as soon as the true seat of disease was attacked :—

Mrs. P——, aged thirty-three, was the mother of four children, the youngest of whom was six years of age. Ever since the birth of her last child she had suffered from uterine diseases, the prominent symp-

toms being constant bearing-down pain which entirely incapacitated her for work, and a very profuse leucorrhœal discharge of a transparent gelatinous character. The latter was steadily increasing, and she became now thin and cachectic. The menstrual flow was irregular, scanty, and very painful. The uterus was large, and tender on pressure; the cervix greatly hypertrophied, and covered with a villous erosion, which bled on being touched. The leucorrhœal discharge was seen to issue freely from the os uteri. During six months the patient had attended the out-patient department of a metropolitan hospital, and during two months she had been treated generally, with occasional applications of tincture of iodine to the cervix. Her general health improved somewhat, but the uterine symptoms did not become much better, while the discharge continued unabated. She was then treated by the intra-uterine application of carbolic acid once a week, along with the application of iodised cotton and glycerine to the cervix. After the third application the discharge was much diminished, and the erosion of the cervix almost healed. In four months the patient was perfectly well; the uterus being of normal size, and the uterine leucorrhœa having entirely disappeared. She has since remained perfectly well in every respect.

M——, aged twenty-six, domestic servant, had suffered from uterine disease four years, with constant pain, and the discharge was so profuse that it ran freely from her, and incapacitated her for work. She had, on two occasions, been an indoor patient in a metropolitan hospital for several months, gaining only temporary relief. On examination the uterus was seen to be large and heavy, the cervix greatly eroded, and the os patulous, admitting the sound with ease. A glairy discharge was pouring out abundantly. After the fifth intra-uterine application of carbolic acid, the discharge, which had continued unabated for four years, almost entirely ceased. There remained neither pain nor bearing down. The patient was able to walk a good distance, and carry weights without inconvenience, for the first time since the onset of her illness. She had gained in flesh and general health.

Mrs. K——, aged twenty-six, the mother of four children, had suffered greatly for three years from uterine disease, and had undergone a variety of treatment, including repeated leeching of uterus, and the application of potassa fusa to the cervix, without any permanent relief. She was entirely unable to walk, in consequence of bearing-down pain and profuse leucorrhœal discharge. The menstrual flow was irregular and scanty. On examination, the uterus and cervix were both greatly hypertrophied. The latter was softened, and covered with granular erosion, which bled on being touched. Much glairy discharge exuded from the os. The uterus was anteverted, and the cervix exposed with difficulty. A band of adhesion was felt in the direction of the right broad ligament—probably the remains of an old attack of parametritis. There was, however, no swelling or tenderness on pressure in that situation.

The carbolic-acid treatment was then commenced, and from the very patulous condition of the os the probes could be passed with great ease. An immediate improvement commenced. In two months the uterus and cervix were much diminished in size, the discharge lessened, and

the patient was able to walk about with ease, and to attend to her duties. In six months she was perfectly well, and the probes could no longer be passed through the os, which had resumed its natural dimensions.

Art. 241.—*A Case of Retro-Uterine Hæmatocele.**

By Robert Barnes, M.D., F.R.C.P.

(*British Medical Journal*, October 1.)

Dr. Barnes described a case of retro-uterine hæmatocele, and illustrated it by a diagram constructed from the parts obtained by post-mortem examination. The case was remarkable by the blood-effusion having arisen from the rupture probably of a diseased ovary, and by its becoming completely encysted. The mass was of considerable size; it descended low into the pelvis, carrying the uterus forwards and upwards, so that the fundus was felt during life projecting over the symphysis pubis. The mass had caused great local distress, and symptoms of blood-infection arose. This induced resort to puncture of the cyst by the vagina. No improvement followed, and the patient sank. In reply to Dr. Tilt, the President said that the circulation of the blood was circumscribed as the consequence of pelvic inflammation.—Dr. Tilt said that, with regard to the treatment, the history of hæmatocele might be divided into two parts. The first part was that in which it was thought necessary to puncture with a large trocar, or make an incision, and take away as much of the blood as possible. The first pathologist who recognised these cases was Récamier, who did not describe them as hæmatocele, but as sanguineous pelvic tumours. His plan of treatment was to open them by incision, and to extract as much as possible. As a result, pyæmia and inflammation set in. He then made an injection, and the results were very favourable. A little later, the history of these cases was better gone into by Nélaton and Bernutz. Although they thought it was wrong to make any incision, they generally punctured. The mortality remained so considerable that they resolved to leave the cases to themselves—not to puncture, and sometimes to apply leeches either to the womb or the vagina.—Dr. Gibson asked could there be pyæmia if there were no exposure.—The President said that the blood was retained, and would sometimes undergo a change: the watery part of the blood might be absorbed, and so produce signs of pyæmia.

Art. 242.—*Treatment of Uterine Hæmorrhage from Fibrous Tumour by Injection of Perchloride of Iron.*

By Matthews Duncan, M.D.

(*Medical Times and Gazette*, February 11.)

Dr. Duncan reports two cases which illustrate well that most dan-

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* Abstract of a Paper read at the 38th annual meeting of the British Medical Association at Newcastle-on-Tyne.

gerous symptom of fibrous tumour of the uterus—namely, hæmorrhage. This disease might with propriety be called a bleeding disease, because, barring the obvious inconvenience of a tumour of large size, the subject of it generally suffers little from its presence when this is absent. In one of the cases reported, had not bleeding set in, the patient would have been unaware that any unnatural condition whatever existed. Here so much blood had been lost that the woman was brought almost to death's door, and another equally severe flooding would probably have killed her. The treatment by means of which the hæmorrhage can be most successfully combated, is that which consists in the injection of perchloride of iron into the uterus when symptoms of the approach of a severe blood-flow set in—that is, when there exists profuse hæmorrhage about the time the monthly period is expected.

Dr. Duncan's method of procedure is as follows:—After the length and direction of the uterus have been ascertained by means of the ordinary sound, a hollow one is passed into the organ. A syringe, composed of vulcanite, containing about a drachm of the liquor ferri perchloridi, is fitted closely into the orifice at the proximal end of the probe, and its contents are gently thrown into the womb. No pain is generally felt as a result of this injection, but a feeling of burning is sometimes complained of. Dr. Duncan is inclined to attribute this to the regurgitation of some of the iron into the vagina. Dr. Duncan has found this mode of treatment highly successful in many cases, and most so in those where the symptoms calling for it were most urgent.

Art. 243.—*Contribution to the Pathology of Pyæmia, Parametritis, and Peritonitis.*

By Dr. M. Funk.

(*Oesterreichische für praktische Heilkunde*, 22, 23, 1870; *Schmidt's Jahrbücher*, No. 11, 1870.)

The author reports three cases of pyæmic affections in women, who had not undergone any cutting operation, and on whose integument and visible mucous membranes there was no other loss of substance, either recent or of old date, than a large ulcer in the vaginal portion of a prolapsed uterus.

Case 1.—A strong woman, who had suffered for ten years from prolapse of the uterus, was treated at the hospital for an ulcer, of the size of a thaler-piece, on the vaginal portion of the protrusion. Five days after the date of her discharge she suffered from some general affection, which terminated in death on the forty-first day. *Autopsy:* salpingitis, peritonitis, pleurisy, and purulent parametritis.

Case 2.—In the same ward was treated, five months later, a strong woman, who suffered from a similar but much larger ulcer. After reposition of the prolapse, with the patient in the horizontal position and the buttocks raised, the treatment consisted of attention to cleanliness, injections of solution of sulphate of zinc and the occasional application of sulphate of copper. Fourteen days after admission the patient was attacked

without any appreciable cause by fever and rigors. At the end of forty-eight hours the patient was dead. *Autopsy:* salpingitis, purulent peritonitis, hypostatic hyperæmia of the lungs, metastatic hepatic abscesses, icterus, pyæmia.

Case 3.—Four months later a thin but previously healthy woman was treated again in the same ward, for prolapse of the uterus with a large ulcer. After a few weeks and during the treatment of the ulcer the patient was attacked by fever, repeated shivering, diarrhœa, slight icterus, tympanitis, and abdominal tenderness. The patient ultimately recovered, the affection having lasted four weeks.

From the analogy of the appearance of erysipelas in the neighbourhood of excoriations and ulcers Dr. Funk derives the etiology of the above cases of pyæmia, and comes to the following conclusions:—

1. In cases where women are attacked by fever and symptoms similar to those given above, one must naturally, after the exclusion of all other forms of disease, conceive the idea of a pyæmic affection originating in the genitals.

2. Parametritis frequently comes on through an infection set up by an ulcer on the vaginal portion of a prolapsed uterus.

3. Peritonitis in many instances in which the inflammation was formerly believed to be idiopathic, will on closer examination be discovered to be secondary, and the more so as the peritoneum is nothing more than a large lymph sac.

Art. 244.—*On Reclination of the Pregnant Uterus.*

By Dr. Ernst May.

(*Inaugural Dissertation*, Giessen; *Schmidt's Jahrbücher*, No. 11, 1870.)

In this essay the author, after reporting a fatal case of retroversion of the pregnant uterus which was only partially replaced and finally caused gangrene of the bladder, and likewise a second case in which reposition was accomplished, and the woman cured, alludes to the results of five experiments on animals instituted for the purpose of explaining how gangrene of the bladder is produced, and from which he obtained the result that after repeated *intermittent* ischuria such vesical gangrene may take place. The following are some of the results of Dr. May's researches on reclination of the gravid uterus, of which affection he has collected 150 cases from different sources:—

Etiology.—The chief predisposing causes which act before the commencement of pregnancy, are the following:—1. Relaxation of the ligaments of the uterus; 2. Adhesion of the posterior wall of the uterus to the wall of the pelvis; 3. Morbid conditions of the pelvis.

1. Causes which favour increased length and relaxation of the uterine ligaments:—1. Retroversion occurs much less frequently with primiparæ than with multiparæ. 2. Retroversion occurs more frequently in advanced periods of female fecund life—between the age of thirty-five and forty years. 3. Previous disease of the genitals is also a predisposing cause of relaxation of the uterine ligaments. 4. The influence of the bodily constitution is doubtful.

2. Ligamentous adhesion of the posterior wall of the uterus to the

rectum and peritoneum lining the back of the pelvis appears to be the chief cause of retroversion of the uterus when this condition occurs in the non-pregnant female. Dr. May, however, does not question the occurrence of this state of retroversion during pregnancy in cases where adhesions had been previously wanting.

3. Many authorities, among whom Holst may be especially mentioned, seem to be of opinion that a peculiar condition of the pelvis cannot be admitted as a predisposing cause of retroversion of the uterus; from a theoretical stand-point, this does not appear to be a correct view, since with excessive excavation of the sacrum—the large or slightly-inclined pelvis of Holst—the fundus uteri may readily become depressed and a retroversion take place, the return of which on account of the great projection of the promontory is a matter of difficulty. Another predisposing cause is the forward direction sometimes taken by the portio vaginalis in the second month of pregnancy; a physiological retroversion then arises, which under the influence of other later conditions may extend to a great degree.

The exciting causes most of which consist in pressure from below backwards on the anterior wall of the uterus by means of which this organ is forced into the excavation of the sacrum, are divided into two classes, that of acute and that of chronic causes. To the first belong particularly the lifting of heavy weights, laborious occupations, much travelling, falls upon the buttocks, especially when the bladder is full, violent coitus, &c. As chronic causes are given: primary paralysis of the bladder, primary obstruction with the application of great pressure on the abdomen.

Retroversion of the gravid uterus is most frequently met with at the third or fourth month. That retroversion of the uterus may occur at the end of pregnancy is proved by a well-known case reported by Dr. Oldham; here there is generally a partial retroversion, the lower and posterior part of the uterus projecting as a diverticulum into the pelvis, and the fundus meeting upwards towards the diaphragm.

Course and termination.—The prognosis of retroversion of the gravid uterus is not unfavourable if reposition takes place spontaneously or can be effected by art. The mortality is about 15 per cent.

Treatment.—In 32 of the 150 cases collected by the author spontaneous reposition occurred after attention to the patient's position, after catheterization, after the removal of enormous masses of fæcal matter, and, in one case, after sub-pubic paracentesis of the bladder.

Artificial reposition was effected in 73 cases; 55 times by Schreyer's method by the vagina, and 18 times by the Gregoire-Richter method; in one case reduction was performed after Hooper's plan of introducing the fingers both into the vagina and the rectum; in one case also the uterus was replaced by the lever. In two cases premature labour was brought on by puncturing the membrane, and in two other cases by puncture of the uterus through the vagina.

Dr. May recommends as means of inducing spontaneous reposition, catheterization, attention to the bowels, and prolonged and alternated lateral reclination.

The difficulties attending catheterization may be best overcome by using the elastic male catheter.

In the presence of commencing symptoms of incarceration, reposition is at once indicated. The bladder must be previously emptied and the attempt made to replace the womb, with the patient either on her elbows or knees, or on one side.

In attempts at reposition by the rectum, the successes were 72 per cent., and in attempts by the vagina, 80 per cent. This, together with other reasons, indicates the great advantage of reposition by the vagina. After this proceeding care must be taken to guard against a relapse.

Art. 245.—*On the Outbreak of Diphtheria in the Obstetric Wards of Guy's Hospital.*

By J. Braxton Hicks, M.D., F.R.S.

(*Guy's Hospital Reports*, vol. xvi.)

Dr. Hicks publishes a short account of the cases alluded to by Dr. Steele, in his statistical report for 1870, which occurred in the obstetric ward of Guy's Hospital, in December, 1869, when an attack of diphtheria began first in a patient recently admitted with anasarca coupled with pregnancy. She aborted, and was attacked with the above-named complaint. It extended to others, but it was remarkable that those only were seriously attacked who had had some surgical interference; at least, although some sixteen were influenced by it, yet no one in the ward besides those operated on had any sign of anything more than slight sore throat. It is also worthy of remark that about a week before the first case of diphtheria occurred, a woman, who had been in a few days for a plastic operation on the perinæum, became covered with redness and burning of the skin, with subsequent peeling of the cuticle. The following is one of Dr. Hicks' cases:—Whilst the first patient was succumbing, he removed a fragile calculus from the urethra of a woman who had just entered the hospital. She went on well for about three days, when she complained of being feverish and tender in the urethra. On examination, the parts which had been abraded were covered by diphtheritic layers, running up to the bladder. In a few days cystitis came on. To relieve her pain, morphia was injected into the arm. The spot inflamed and suppurated. About three days after this a swelling over one knee came on. Matter in a day or two was found and let out. On her shoulder also the same occurred. In the meantime her constitutional symptoms became very severe, and it was evident that pyæmia was present in its worse form. As she was sinking, and her husband was anxious for her removal home, she was taken out, and died shortly after. Seven other cases are reported, four of whom died. In commenting upon the cases, Dr. Hicks observes, it is the habit of looking so much for the ordinary symptoms of a specific poison which hinders us from recognising the untoward influence the same poison may exert in a system exposed to any lesion which requires good health for reparation. So small a quantity of baneful influence is sufficient to produce imperfect reparation of damaged tissues, and so slight is the line of separation between the tendency to good or bad recovery, that

we are apt, till our attention is closely drawn to the subject, to overlook these important influences. That which one often puts down to a non-disposition to "heal" is quite as often, if not more often, dependent on the system being influenced in a less degree by a poison which in greater quantity would produce the violent forms of pyæmia. Let this be fully recognised, and careful attention will be amply rewarded by far more satisfactory results. Numberless causes of a detrimental kind surround us all, and the utmost care is required lest they affect those who require reparation of damaged parts. This is equally true in the surgical as in the lying-in room. It matters not in practice whether we believe in the living germ-theory, or in floating poison; but that what attacks the patient has a material existence, and is capable of being diffused, driven away, or destroyed, seems to be completely proved.

(C) CONCERNING THE DISEASES OF CHILDREN.

ART. 246.—*On the Hygiene of Infants.*

By Dr. BLOT, of Paris.

(*Echo Médical et Pharmaceutique Belge*, No. 6, 1870.)

"*Lactation.*—For the first two months the mother or nurse ought not to put the infant to the breast more frequently than every two hours. It is useless to do this more frequently unless very little milk is given at each suckling. When the infant is put too often to the breast it has not time to digest the milk, and consequently is disposed to indigestion; a portion of the milk is sometimes vomited and fluid-greenish stools are passed. It is not necessary to awake the infant in order to put it to the breast, unless its sleep is prolonged beyond three or four hours in the day. During the night the breast ought to be given less frequently, so that the infant and the mother may sleep for several hours. The mother ought never, on any pretext, to put the infant in bed with her, nor go to sleep with it at the breast; it has happened that children have been suffocated in this manner. The milk of the mother should constitute the sole nourishment of the infant during the first five months. If the milk of the mother become insufficient before the expiration of this period, a nurse should be substituted.

"*Mixed milk diet.*—In cases where the mother's milk, either by accident or disease, becomes temporarily insufficient, the following precautions should be taken, in order to give artificial nourishment with success:—Cow's milk should be mixed with one-third and subsequently with one-fourth its quantity of pure water, and then given; this is far preferable to decoctions of barley or oatmeal, which it is often the custom to give. The milk thus thickened should be slightly sweetened and warmed. No more milk should be put into the vessel used for feeding the infant but what is just necessary for a single administration. The milk should be renewed every time that the child is fed. If any remain it should be thrown away. The vessel should always be emptied, cleansed, and carefully wiped after the child has been fed. It must

be remembered that the smallest particle of milk left in the vessel may alter and sour the fresh milk which is afterwards put in, and give rise to indigestion and other complaints, as thrush, &c. The vessel should be of glass; those made of pewter should be avoided, as they contain a certain proportion of lead. It is necessary to avoid using balls of linen-rag or sponges impregnated with milk or sugared water, which it is the custom to put between the lips of children, in order to quiet them.

"Before the fifth month no other nourishment but milk ought to be given. If before this period the milk is insufficient or does not agree with the child, no change should be made in the food except with the advice of the medical attendant. He alone should decide whether it is necessary to give anything else, as starch, tapioca, arrowroot, rice, or pap. These substances should be mixed at first with milk, or slightly-sweetened water, and, some weeks afterwards, that is to say, about the sixth month, with weak broth. It is necessary to graduate and vary the strength of this nourishment, according to the facility with which it is supported by the infant's stomach.

"In every case it would be dangerous to wean the child before the first four teeth have been cut, and before depriving it of the breast altogether the opinion of a medical man ought to be taken. It may be still necessary for the child to take the breast in order to preserve this resource until the appearance of the first six teeth.

"Towards the seventh or eighth month the child may be allowed to chew a crust of bread, either dry or dipped in sweet juice or sugared water, but cakes and confectionary of every kind should be carefully excluded from the food.

"*Intestinal evacuations.*—The regularity which has been recommended with regard to the nourishment of infants should also be applied to the state of the bowels. The intestinal evacuations during the early months ought to take place three or four times in the day, and be semi-fluid, of a clear yellow colour, and be free from white lumps and greenish material. When the evacuations are unfrequent and too solid, the child should be put in a bath, poultices be applied to the abdomen, and a small piece of suet or white soap placed in the rectum, or an enema of simple water or of decoction of marsh-mallow, be given.

"*Attention to cleanliness.*—The infant's toilet ought to be made every morning thoroughly, and before giving the breast or any food. When the toilet is made after giving food digestion is disturbed. After every evacuation the soiled linen ought not only to be dried but thoroughly washed. Particular attention should be paid to the child's head, so as to prevent accumulation of scurf or scabs. The latter are best removed by applying some oil, then washing the scalp with soap and warm water, and finally using a brush with long and fine hairs.

"After washing the infant, it is necessary to wipe with a dry linen towel all the parts that have been moistened, in order to avoid any causes of chilling. The use of baths is of great service in infancy. When the season and the child's health permit, a bath ought to be given twice in the week. It ought to be of the temperature of the skin of the upper limb plunged into the water to above the elbow. The infant, when very young, should remain for three minutes; when five or six months old, for five minutes.

"*Clothing.*—The swaddling clothes ought never to be sewn around the body, but as much liberty as possible be allowed to the infant, not only in its chest and abdomen, but likewise in the arms and legs. The more liberty an infant has the more robust does it become. If during the early weeks and during wet seasons it has been necessary to cover the child with thick and warm clothing, this must be gradually removed with advancing age and on the approach of a mild season. If the chamber in which the infant sleeps be warm and the season not rigorous, it is unnecessary to apply thick covering or to hang thick curtains about the cradle; the infant should be allowed to breathe freely, and be not exposed to the risk of debility from transpiration. The body linen ought to be frequently renewed. The napkins should be changed whenever they are soiled by urine or intestinal evacuations, in order to avoid irritation from their prolonged contact with the skin. It is serviceable to maintain during the first month the bandage usually applied to the umbilicus and around the abdomen. This, when moistened, should be renewed. The application of pins should be made with great care, for it often happens that these prick the infant, and thus excite cries which may be attributed to some other cause. Pins may be replaced with advantage by string.

"The infant ought not to be left for long during the day in its cradle; it ought to be carried about in the nurse's arms. After the fourteenth day, it ought to be carried into the open air as often as the external temperature will permit.

"*Indisposition and maladies.*—In infancy an apparently slight indisposition ought never to be disregarded. This is necessary if we would prevent the indisposition from degenerating rapidly into a serious affection.

"When the infant takes the breast with difficulty this is frequently attributed to a faulty conformation of the frenum of the tongue, which, when cut, sometimes gives rise to fatal hæmorrhage. If the tongue can be protruded freely between the lips the child is well formed in this respect, and the difficulty which exists in suckling is often due rather to a faulty conformation of the mother's nipple.

"The most frequent affections in young children are disturbances in the functions of the stomach and intestines, the principal cause of these being the faulty direction given to lactation and nourishment by artificial food.

"When the intestinal evacuations become disordered they are much more fluid and more frequent than ordinarily. Instead of being yellow, they are brown or green, and contain yellow and pale lumps—badly digested milk.

"The first thing to do is to give the breast less frequently; poultices should be applied over the infant's abdomen, inunction made with sweet oil, and starch enemata administered. The presence of white patches or elevations in the mouth, and also that of red elevations or pimples about the anus and on the buttocks and external genitals, are indications of some intestinal irritation, which should at once be attended to.

"*Weaning.*—The epoch of weaning ought not to be fixed in an absolute manner. In removing the infant from the breast one ought to be guided both by the progress of dentition, and by the more or less regular state of the digestive functions.

"It may be generally stated, however, that the child should never be weaned before the end of the first year, or at least before the cutting of the first six teeth, and that it is necessary, as far as possible, to select the interval of calm which occurs after the cutting of a group of teeth, whether they be the first six or the first twelve.

"With the aim of preparing the infant for the weaning it is necessary at first to withhold the breast at night, and to replace this two or three times in the day by weak broths, and then to increase gradually the quantity and quality of the food.

"The season of the year to be chosen for weaning cannot be fixed absolutely; it varies according to the age of the infant and the climate. As a rule, the seasons to be preferred are the spring and autumn.

"In order that the weaning may be effected without trouble, it is necessary that the digestive organs of the infant be in a good condition, and that they are prepared gradually during the period of lactation by the administration of weak food, such as broths, arrowroot, tapioca, &c. Any condition of disease, especially in the alimentary canal, is a motive for postponing the weaning.

"The infant once weaned, the diet should be of the kind described above under the head of mixed food, the quantity and quality of the nourishment being gradually increased. In all cases regularity as to the hour of the repast is in all instances one of the most necessary conditions to observe."

Art. 247.—*On the Excessive Mortality of Infants.*

By Charles M'Carthy, M.D., President of the Medical Association of Victoria.

(*Australian Medical Gazette*, December, 1870.)

From this paper it appears that the mortality of Queensland is higher than that of England, and twice as high as in former years. Dr. M'Carthy believes that one half the deaths need not occur. The fault, he says, is not in the climate, but in the four following circumstances:—

1st. Improper diet, as to quantity and quality. As to quantity, the children are perpetually eating; and, when one year old, usually sit at the same table with their parents, and partake of the same food and drink. As to unripe fruit, there is no limit.

2nd. Unsuitable clothing, without regard to climate, season, or changes in the weather.

3rd. Impure air, from bad ventilation, and absence of drainage.

4th. A lamentable neglect of *early* or *sufficient* medical attendance.

Art. 248.—*On the Scrofulous Diseases of Children.*

By Edward Clapton, M.D., F.R.C.P., Physician to St. Thomas's Hospital.

(*British Medical Journal*, February 25.)

In a clinical lecture on the above subject delivered at St. Thomas's

Hospital, Dr. Clapton remarked that amongst the poor of London scrofula in one form or other is fearfully common. A very large proportion of the children who attend as out-patients suffer from it.

There may not be any marked manifestations, but that condition which may be termed scrofulous debility is perhaps the most common of all. The characteristic symptoms are well known:—a delicate appearance generally; loss of flesh; muscular fatigue after very slight exertion; a rapid irritable pulse; cheeks pale, though flushed by the slightest excitement; large pupils; tongue coated and studded with prominent papillæ; offensive breath; capricious appetite; and, in the majority of instances, mental precocity. This constitutional state is due, as a rule, to hereditary causes; but it is obviously aggravated, and may even be engendered, by bad air, bad food, and bad clothing.

Amongst children, scrofula generally exhibits itself in one or other of the following forms:—glandular disease; tubercular peritonitis; tabes mesenterica; tubercular meningitis; and cerebral tubercle. Other conditions, as scrofulous ophthalmia, scrofulous disease of joints, &c., fall under the surgeon's care.

Scrofulous Disease of Glands.—This is found chiefly in the neck, sometimes in the axilla or groin. It is always associated with some of those general symptoms already mentioned; indeed, there is very little difficulty as to diagnosis. Of course the glands may become enlarged from other causes, as injuries, inflammations, skin-diseases, &c., in their neighbourhood, but these are easily detected; and in such cases the glandular swellings are smaller, more even, and more sharply defined in outline. Suppuration does not occur in the majority of cases of scrofulous glands; when it does, it is very slow and sluggish, the skin first becoming purplish-red and adherent. Dr. Clayton does not think it a good plan to make an incision until it becomes evident that by further delay an ulcerous opening must speedily form, in which case considerable and permanent disfigurement will ensue by reason of a large, irregular, ugly cicatrix. Dr. Clayton believes the best local treatment to be a linseed-meal or bread poultice applied every night, with a little iodine ointment spread on that part covering the enlarged glands. As to internal treatment, iodide of iron with cod-liver oil is chiefly relied on, though in the majority of cases this should be preceded by a purgative dose of grey powder and rhubarb, and a mixture containing chlorate of potash and bark. Chlorate of potash is peculiarly suitable for scrofulous children whenever there is a febrile condition or gastric disturbance. Steel wine with infusion of quassia, and an occasional dose of scammony and calomel, are generally ordered when the patient is troubled with ascarides—a very frequent accompaniment of the scrofulous condition. Sometimes, instead of ascarides, a gelatinous-looking mass is passed after this purgative dose, and subsequently the young patients greatly improve in health. In such cases the mucous membrane of the intestines is lined, as it were, with a varnish of tough unhealthy mucus, which prevents the proper absorption and assimilation of food, and beneath which ascarides are readily developed. In cases of increasing emaciation, when the cod-liver oil cannot be taken or retained, one or two teaspoonfuls of glycerine in milk form an excellent substitute, and under its use these thin delicate children certainly seem to acquire fat

and strength. Open-air exercise should always be enjoined, as also warm clothing, and wholesome, generous, unstimulating diet; but it seems a mockery to enter into the subject of diet with respect to the great majority of poor children who are brought as out-patients to hospitals.

Strumous Ascites is the result of chronic tubercular peritonitis. This kind of inflammation almost always runs on slowly and insidiously to the effusion of serum. No great amount of pain attends it, such as is found in other forms of peritonitis—sometimes only aching or a sense of uneasiness arising from distention. It is produced by tubercular deposits in the peritoneum, or rather in the subperitoneal tissue. A very slight deposit may be sufficient to cause extensive ascites. Sometimes, however, countless numbers of miliary tubercles have been found after death lying within the folds of the omentum. Recoveries often take place from this form of ascites, even when no diuretics or eliminatives of any kind have been given. Although the strumous diathesis may have been well marked, yet the recoveries seem to be complete as far as they go. Dr. Clayton mentioned one case in particular, that of a lad of fourteen, on whom he wished at one time to have the operation of paracentesis performed, so extreme was the swelling, but it entirely subsided under the use of mercurial alteratives, quinine and iron, and cod-liver oil. This plan of treatment answers much better in such cases than acting powerfully upon the various secretions. In a few rare instances, ascites has arisen from enlarged scrofulous glands pressing on the vena portæ.

Tabes Mesenterica.—Dr. Clayton does not think that this disease is so common as is generally considered. Thin scrofulous-looking children with large abdomens are doubtless met with very frequently, and they might hastily be recorded as cases of tabes mesenterica; but, if we account accurately for all such affections as chronic tubercular peritonitis, atonic dyspepsia, portal congestion with distended intestines or fæcal accumulation, and that kind of chronic tympanitis which accompanies worms in weakly children with depraved appetites, those remaining as true tabes mesenterica will be found to be comparatively few. This, perhaps, may account for the numerous so-called cures of this disease, which in itself is really as fatal as phthisis pulmonalis. Little can be done for these patients beyond attending to their general health, and relieving urgent symptoms as they arise, such as pain, irritation of the bowels, diarrhœa, &c. For the latter a mixture containing rhatany, paregoric, and glycerine seems to answer best. Such patients are immensely benefited for a time by being sent, when possible, to some eligible sea-side place, as Margate.

Acute Strumous Hydrocephalus, the result of tubercular meningitis, is not often seen in London hospitals, although tubercle of the brain is very common, at least amongst the out-patients. How many children we find labouring under the following symptoms:—a pale, delicate appearance; dilated pupils, perhaps strabismus; frequent headache or heaviness of head; occasional vomiting coming on suddenly, preceded by vertigo and not necessarily occurring after food; a slow and perhaps irregular pulse; capricious appetite; starting or shrieking, or grating the teeth at night, and sometimes epileptic seizures. In the majority

of instances there are evidences of scrofulous disease in the chest or abdomen, or in the glands of the neck. Some of these symptoms may be slight, or even wanting, but the indications as to the true nature of the case are generally sufficiently evident. The great fear is lest the attacks of vomiting should be mistaken for simple biliousness, or gastric disturbance of a dyspeptic nature, and treated accordingly. Such an error of diagnosis, and consequent prognosis, would be likely to prove very damaging to your reputation in practice, though hardly so detrimental to the young patients as might be supposed. They are generally greatly relieved for a time by cholagogues, aperients, and even mercurials, followed by stomachic tonics; but the distressing symptoms recur again and again, and before long, more decided cerebral symptoms indicate the true nature of the disease. Sooner or later a fatal termination ensues, whatever treatment may be adopted. These young outpatients mostly attend with great regularity for a considerable time without any marked change, and then we miss them all at once. They have been seized with either convulsions, or coma, or acute hydrocephalus, and are quickly carried of. When the disease has come to this pass, indeed, recovery is worse than death; for they are sure to be afflicted with incurable paralysis (if the central part of the brain have been affected), or epileptic convulsions (if the surface), or the mental faculties will be hopelessly impaired. Other distressing conditions will exist in addition, according as particular nerves are implicated—amaurosis, if the second nerve be affected; ptosis, if the third; double vision and strabismus, if the sixth. As to the treatment of cerebral tubercle whilst still in an early and quiescent state, and unattended by any of the graver symptoms, Dr. Clayton has always found more benefit from hypophosphites and cod-liver oil, with an occasional dose of calomel and rhubarb, than from any other medicines.

Art. 249.—*Treatment of Laryngismus Stridulus.*

By Lawson Tait, F.R.C.S., L.R.C.P., &c.

(*Dublin Quarterly Journal*, February.)

Heroic-antiphlogistics, bleeding, and low diet are inadmissible. Children's diseases, as a rule, do not stand bleeding, and they very rarely require it; and in the instance of laryngismus the patients certainly will not benefit by it. Good, nourishing, though at the same time easily-digested, food, with even slight stimulants, should be had recourse to. There is nothing that Mr. Tait has found to equal whipped white of egg, with a little milk and sugar, uncooked; and, if a stimulant should be required, the addition of a dessert-spoonful of brandy. There is no stimulant that children more readily take than champagne, and none which seems to be of more service to them. Mr. Tait has very often, he believes, saved children by this wine when they have refused all other stimulants. Before administering it, the effervescence should clear, and an equal bulk of water be added; if the patient be feverish, and it seem grateful, no fear need be entertained about the addition of

a little ice. Milk and animal soups will also be of service. Counter-irritation on the head the author has often seen of great use; and the form which seems to be most convenient is the inunction with equal parts of croton oil and glycerine of the occiput, or an iodine blister. Of internal remedies, that from the use of which Mr. Tait has seen most good accrue is, without doubt, iodine; or iodine in conjunction with bromine. In the form of iodine of potassium alone, or combined with the bromide, the author is certain that he has seen it check most serious cases. The bromide of potassium especially seems to have a powerful sedative action on the nervous system, and in this way often checks or alleviates the spasms. To effect this, however, it requires to be given in large doses, and to a child of a year old Mr. Tait has given as much as two and a half grains of bromide of potassium, and half a grain of the iodine, with marked effect. Grain and two grain doses of the iodine, at the same age, are not excessive. Of course, such causes of suffering as aphthous mouth, irritable gums, and diarrhœa must be attended to. The inhalation of chloroform if the time of warning will admit of it, will be found of great benefit, as there is no more valuable aid in the treatment of infantile convulsions. The question of the performance of tracheotomy is serious, but Mr. Tait thinks ought to be entertained; it is not likely to be one to which parents will consent until too late, nor is it likely often to be the fate of a competent surgeon to be on the spot when the operation is urgently needed. The risks of the operation in its after-consequences are great, and amongst English surgeons, the author fears, it is not likely to find favour.

Art. 250.—*On Infantile Remittent Fever.*

By Samuel Wilks, M.D., F.R.C.P., Physician to Guy's Hospital.

The term infantile remittent fever is, Dr. Wilks says, so vague, that no very definite idea can be conceived of the nature of the disease signified. There can be little doubt that various maladies are included under the same name, or the profession would have long ago agreed to substitute for it the more decided expression typhoid or enteric fever. That a great many cases of children's disorder, known by the name above mentioned, are nothing more than this last-named fever, is very certain; although there is often much difficulty in the recognition of the complaint, from the absence of the characteristic rash. It is often rather from a contemplation of the case from its commencement to its termination, and the surrounding circumstances, that the conclusion is arrived at. There are cases, however, which show so marked a remission of symptoms, and which occur under circumstances where so strong a suspicion of miasmatic influence exists, that there can be little doubt of their true aguish type. Besides these two forms included in the term infantile remittent, there is a large class of cases which do not run a very definite course, and to which the name gastric or worm fever has been applied. This complaint may last a few days, a week, two weeks,

or even longer, and is apparently due to gastro-intestinal disturbance, and has no title, therefore, to the name of a specific disease. The child is often taken suddenly ill, with high febrile symptoms, which are more marked at night, and subdued in the morning, accompanied by a furred strawberry tongue, foul breath, sickness, confined bowels, hacking cough, drowsiness, and extreme irritability. Cases of this kind have no right to the appellation fever, which is applied to a specific disease, as they are clearly due to a depraved condition of the alimentary canal; the febrile condition is a mere pyrexia accompanying a gastro-intestinal affection whose duration is indefinite. Dr. Wilks said the whole subject of the so-called "infantile remittent of children," required reinvestigation; it was clear that much of the disease was typhoid, and then, of course, the ordinary treatment was adopted; when the disease was due to stomach or bowel disturbance, and was more distinctly what had been styled gastric fever, then medicines to improve the condition of the alimentary canal were necessary, and for this purpose the various aperient powders in the *Pharmacopœia* were very useful. At the Royal Infirmary for Children, where a routine practice is necessary, Dr. Wilks gave the pulvis rhei salinus (rhubarb and sulphate of potash) once or twice a day, for a few doses, and then some quinine. This was the most successful method. He had learned this plan from his old teacher, Dr. Golding Bird, who had charge of the children's ward at Guy's Hospital, and who used to impress upon his class the great value of the powder above named; a compound invented by Dr. Fordyce, Physician to St. Thomas's Hospital, who himself thus spoke of its merits: "Had I been more ambitious of dying a rich man, than of living a useful member of society, the powers of our anti-hectic powder of curing, as if by miracle, the hectic fever and the swelled bellies of children in this town, would have remained a secret while I lived."

Art. 251.—*Veratrum Viride in Inflammatory Affections.*

By J. Lewis Smith, M.D., Curator to the Nursery and Child's Hospital, New York.

(*Treatise on the Diseases of Infancy and Childhood*, Philadelphia, 1870.)

In the treatment of inflammatory affections, Dr. Smith recommends the use of *aconite* or *veratrum viride* as a substitute for blood-letting. The following paragraph refers to lobar pneumonia:—

"If the previous health of the patient has been good, his age above three years, and the attack primary, and if the inflammation is, in part at least, in the first stage, aconite or veratrum viride, properly employed, is serviceable. Either one is an efficient substitute for blood-letting. Some prefer aconite as less depressing than veratrum, and it is known to be a favourite remedy of homœopathists. I have ordinarily employed the veratrum, prescribing the tincture in doses of one drop every three hours to a child of five years. It can be again dropped in sweetened water, or in syrup of tolu. Its effects should be carefully watched, and it should be omitted, or given less frequently, when the pulse is reduced

to near the natural frequency. The pulse should be maintained two or three days, dating from the commencement of the attaek, at about its natural frequency, but never below it."

Art. 252.—*On Bronchial Asthma in Infancy.*

By Dr. L. M. Politzer.

(*Jahrbüch für Kinderheilkunde*, iii., 4, 1870; *Schmidt's Jahrbücher*, No. 11, 1870.)

Of late years Dr. Politzer has had several opportunities of observing in children bronchial asthma, an affection frequently met with in adults. He is disposed to consider this disease as an idiopathic essential affection of the bronchial muscles, and of the nerves regulating their contraction. This view is supported by five recorded cases.

The collective symptoms in these reported cases correspond closely with those of the asthma of adults dependent on bronchial spasm, they have altogether the characteristic stamp of the so-called asthma nervosum; the attack comes on in paroxysms, generally beginning and terminating suddenly, the course of the affection is therefore frequently typical; the attacks usually last for a fixed time. In one case the attack came on regularly at a certain hour in the day. These symptoms can be explained only by spasmodic constriction of the bronchi. As with the asthma of adults, so in these cases, could every other possible cause of the dyspnœa be excluded. The coexistence of catarrh does not gainsay the nervous nature of the bronchial spasm, because, on the one hand, in such cause the considerable dyspnœa stands in no kind of relation to the often slight catarrh; and, on the other hand, the asthma may entirely disappear, whilst the catarrh continues and increa es in intensity. The asthma, moreover, when it coexists with catarrh has nothing in common with this affection, it is rather a self-subsisting disease, which takes a course quite independent of any coexisting affection in the same way as spasm of the glottis and hooping-cough. Upon the pathology and etiology of this disease only uncertain conjectures can be given.

The diagnosis rests upon the following pathognomonic conditions:—The characteristic mark consists in excessive regular dyspnœa lasting for eight, ten, or twenty hours. By this symptom croup, pneumonia, pleurisy, bronchitis, and pulmonary œdema can safely be excluded. This dyspnœa comes on rapidly, without fever and elevation of temperature; the latter may even be reduced, and when catarrh with fever have preceded the attack, the latter will generally cease with the commencement of the dyspnœa. By auscultation peculiar high, fine, whistling and hissing murmurs can be made out, and, indeed, with diminution or even absence of the vesicular murmur. The slight laryngeal cough, in cases where catarrh has previously existed, disappears on the accession and increases with the removal of the asthma; after a period varying in different patients from eight to twenty-five hours, the dyspnœa is relieved or quite ceases with the accession of cough and expectoration, and

then after a certain interval returns. Although the dyspnœa presents many points of resemblance to that of croup, still both can be readily distinguished by the fact that the respiratory sound in croup is harsh and wheezing, in asthma fine and whistling; with croup there are short occasional fits of suffocation, whilst in the asthma the dyspnœa remains the same during the whole attack; in the latter affection carbonic-acid poisoning and coma may come on in the course of a few hours, whilst in croup these morbid changes occur for the first time at a late period of the disease.

Art. 253.—*On the Action of Mercury in Children.*

By William Stephenson, M.D., F.R.C.S.E.

(*Edinburgh Medical Journal*, May.)

At a meeting of the Medico-Chirurgical Society of Edinburgh, on March 1st, Dr. Stephenson read a paper on the Action of Mercury in Children. He remarked that recent physiological experiments tended to prove that mercury had no direct stimulant action on the biliary secretion; but, so long as these experiments were made only on healthy organs, they could never demonstrate that it had no effect on the pathological conditions which were interfering with the performance of the function, and the result of such experiments would never overturn its use after the manner of a rational empiricism. An analysis of its action in the intestinal affections of children showed that its good effects could be explained on other grounds than its mere cholagogue action; and, although this theory of its action was erroneous, mercury was still of service. Its use, however, should be limited almost wholly to its action as an occasional purgative. When given to produce its constitutional effects, the constitutional type or diathesis greatly determined its action. It was in subjects most liable to those external diseases where mercury was of service when applied externally, that internal affections were most likely to be amenable to its constitutional use. From the consideration of its internal use, illustrated by cases, the following conclusions were drawn:—1. Mercury may be employed to influence the constitution without any injurious effect on the general health. 2. To obtain its therapeutic action, it is not necessary to produce its visible physiological effects; it becomes injurious so soon as these are manifested. 3. It is an error to suppose that children are less susceptible to its influence than adults; its effects are not to be looked for in its action on the mouth, but in its depressing effects and in deterioration of the blood. 4. It should be used only so far as is necessary, and in order to stimulate the nutritive changes in the tissues, not in the character of the constituents of the blood; for this purpose it should be used as a whip or spur only—that is, occasionally and at intervals, not continuously throughout the whole course of the disease. 5. Its use in modifying acute inflammatory action is very limited, and requires further observation; but there is no question as to its power over the products of inflammation, in starting the processes of resolution and absorption where these have been arrested; and, where other remedies fail in producing a change in morbid nutrition, it does in certain cases succeed

in promoting a return to healthy action. 6. No number of cases improperly treated by mercury, no number of "constitutions shattered by its abuse," no number of instances where disease has been cured without it, can in any way invalidate the results of its effects, where it has cured where other remedies have failed, or lessen in any measure the position here defended of a judicious use of the medicine. In infantile syphilis, the author had the greatest confidence in the good effects of mercury, but limited its use, as in other diseases, and stopped it whenever amelioration in the symptoms was observed, renewing it if necessary, and not giving more than one or two grains of grey powder daily for a fortnight.

Art. 254.—*Dislocations in Children.*

By John Ashhurst, Jun., M.D.

(*American Journal of the Medical Sciences*, October, 1870.)

At a meeting of the College of Physicians of Philadelphia, Dr. John Ashhurst, jun., reported three cases of dislocation, which he thought were somewhat interesting as occurring in children, and as illustrating the comparative influence of the muscular and ligamentous structures in resisting efforts at reduction.

Case 1.—A boy, aged ten years, admitted to the Episcopal Hospital February 6, 1866, with luxation of the head of the right femur downward and forward—the injury having been produced several days before by violence exerted while the thighs were widely abducted. The dislocation was reduced by manipulation, without anæsthesia, and the boy discharged, cured, nine days later.

In March, 1870, Dr. A. had examined the limb again—the boy exhibited no evidence of his former injury, but felt slight pain in the knee when fatigued by unusual exertion.

Case 2.—A boy, aged eight years, admitted to the Episcopal Hospital February 19th, 1870, with luxation of the head of the femur upward and backward, produced one hour before by a blow upon the hip from a falling piece of timber. The dislocation was readily reduced by manipulation without ether, and the patient discharged, cured, in ten days.

Case 3.—On March 27th, 1870, a female child, two and a half years old, while being swung around by the arm, in play, by an older person, received a sub-coracoid luxation of the head of the left humerus. The dislocation, as in the other cases, was readily reduced without ether.

Dr. Ashhurst referred to the old dispute as to whether resistance to reduction, in cases of luxation, came from muscles or ligaments, and used the cases above recorded as illustrations of the necessity of recognising both elements: the muscular resistance in children was slight, and in adults could be annulled by employing anæsthetics, and there then remained only the ligamentous resistance which had to be considered in studying the mechanism of any mode of reduction.

Dr. Packard had met with a subclavicular dislocation of the head of the humerus twice in the same child. The first injury occurred at the age of two years, the second a little more than three months later;

and both were due to lifting the patient by the arm. No anæsthetic was used in the reduction, which was easy. He thought the luxation was facilitated by the imperfect development of the bony processes, especially the coracoid.

Art. 255.—*Differential Diagnosis of Slight Cases of Rickets and of Chronic Hydrocephalus.*

By Dr. Widerhofer.

(*The Lancet*, March 18.)

In a clinique recently delivered at the Children's Hospital, Vienna, Dr. Widerhofer remarked that while the diagnosis of even moderately well-marked examples of these two diseases is generally unattended with difficulty, there are often instances in which, even with the help of the following indications, it is nearly impossible, without keeping the patient under observation for some time, to say which we have to do with. The points to be attended to are briefly these. In rickets the form of the head is more or less angular, but there is no special disproportion between the head and the face. The anterior fontanelle may be large, but the sagittal suture is generally closed at eight or nine months in such cases as we are considering. The orbits are normal, and there is no prominence of the cornea. Further, some alterations in other parts of the skeleton—*e.g.*, beading of the anterior ends of the ribs, some degree of pigeon-breast, or some enlargement of the epiphyses of the radius and ulna at the wrist-joint, will probably be present. In chronic hydrocephalus, on the other hand, the skull is inclined to a globular shape; the sagittal suture is open, as well as the fontanelle; the head is large, out of proportion to the face, and there is a divergence outward of the temporal bones at their upper part, instead of their usual vertical position. From the pressure of the intracranial effusion the upper wall of the orbit tends to become more and more upright, so as to push forward the eyes, and expose the cornea. The eyes may thus acquire a staring aspect. Further, in rickets, the tendency is to partial convulsions, especially spasm of the glottis; in hydrocephalus, to *general* convulsions. Lastly, the former is most frequently accompanied by diarrhœa; the latter by constipation.

Art. 256.—*On Endocarditis in Children.*

By Dr. A. Steffen, of Stettin.

(*Jahrbüch für Kinderheilkunde*, iii., 1870; *Schmidt's Jahrbücher*, No. 3, 1871.)

The two most frequent post partum cardiac affections are pericarditis and endocarditis, and of these the latter supplies a much larger contingent than the former. Pericarditis, according to the author, is an unusual affection in children, though not less frequent in them than in adults.

The general opinion that acute articular rheumatism is the chief cause of endocarditis in children is not accepted by Dr. Steffen, as in almost all the cases which he had opportunities of observing from the commencement there was no history of rheumatism. Not all the cardiac murmurs which come on during articular rheumatism, or even with scarlatina, are sure signs of endocarditis. These, in many instances, are to be considered rather as symptoms of changes in the blood or of disturbed cardiac function. On the other hand, the author supports the view of endocarditis occurring with chorea and after suppurative periostitis.

The following is a brief sketch of the principal appearances presented by endocarditis in children :—

"The child is admitted in a feverish state. Nothing can be learnt on careful examination or from the previous history of the patient. Sometimes the cardiac energy is found disproportionately raised beyond the intensity of the fever. On the following day, or in the course of a few days, the physician makes out a murmur accompanying the first sound of the heart; this, except in rare instances, is constant, and varies only in its energy and nature. This murmur is most audible towards the apex of the heart. The fever increases more or less considerably, and often, according to the temperature, reaches an exorbitant height. The acceleration of the pulse does not keep pace with the fever, but the action of the heart is very lively.

"The second sound of the heart and the murmur accompanying the first sound are loud and clear. Both can be made out, though less distinctly in the carotid and axillary arteries. After this condition has lasted for a few days, an increase of the volume of the heart, both in breadth and length, can be made out on percussion. The dulness may increase daily, or become more and more evident every second day, or the heart, after having increased in size either suddenly or in the course of some days, may remain in this condition. The rapidity and intensity of the increase in size seems to bear a relation to the intensity of the endocarditis. The duration of the cardiac enlargement likewise depends upon the seat, the degree, and the extent of the endocarditis. It may take a few days only, or be prolonged for weeks, or even months. In some rare cases this enlargement remains unaltered. In the majority of instances there is gradual retrogression, the heart attaining either completely or almost so its normal area. For the most part the murmur accompanying the first sound of the heart disappears at the same time, and the increased accentuation of the second lung-sound and the hitherto increased energy of the heart assume their normal conditions."

For the purposes of illustration six cases are reported by Dr. Steffen. The first three cases present the clinical history of a recently developed endocarditis with subsequent dilatation of the heart, which gradually disappears. In the fourth case the disease was less rapid, the dilatation at the morbid change of the heart persisting. Case six is especially interesting as one of fatal endocarditis occurring with septicæmia, the result of diffused suppurative periostitis.

Case 1.—The patient, a boy of seven years of age, came under treatment after the endocarditis had commenced. On admission there was high fever, pulse 120, the respirations 40; with the first heart-sound there was an indistinct whistling bruit, which gradually increased in loudness. The

cardiac dulness then increased, and continued to do up to the tenth day, when it commenced to diminish, the intensity of the cardiac murmur beginning to abate at the same time. At the commencement of the dilatation the fever yielded. On the eighteenth day the fever returned without any appreciable cause, the evening temperature being elevated by about six degrees, the morning temperature by about two degrees above the normal point. This condition lasted until the forty-fourth day. On the forty-eighth day was discharged in perfect health. The first sound of the heart was then accompanied by a very indistinct whistling bruit heard only over the apex.

CASE 2.—A boy aged five years, was under treatment from April 14th to October 12th. For some time before his admission he had been out of sorts, and had complained of pains in the breast and neck. On admission there was a slight whistling bruit with the first sound of heart, the face was slightly œdematous, and there was some fluid-effusion in the abdominal cavity. The patient was very feverish. The last-mentioned symptom disappeared in the course of a few days, but on April 24th returned with greater severity than before. With this relapse there was a loud bruit with the first sound of the heart, accentuation of the second lung-sound, and well-marked dilatation of the heart. The greatest extent of the cardiac dilatation was made out on May 6th, when the pulse was frequent but the temperature not so high as it had previously been. Subsequently there were several febrile exacerbations without any appreciable cause. In the month of June œdema, which had disappeared soon after the admission of the patient, returned in the face and other parts of the body, but in the course of three weeks was removed through active diaphorosis. At this period dilatation of the heart and insufficiency of the mitral tubes were not considerable. Hand-in-hand with the lessening of the cardiac dilatation, the bruit with the first sound of the heart and the accentuation of the second lung-sound gradually disappeared. Two months after his discharge from the hospital the little patient was again admitted, to be treated for eczema ; on examination of which it was found that the condition of the heart with respect to size and tone was normal.

The third case had a simple course. The child, a girl thirteen years of age, had been feverish for some days before admission ; and together with this fever there was increased action of the heart, and also a prolonged murmur. The first sound of the heart was soon converted into a loud bruit, and dilatation of the heart become evident. The latter increased up to the ninth day, when transient albuminuria made its appearance. At the end of three weeks the temperature had fallen to the normal point. In this case digitalis acted promptly on the pulse and temperature. At the end of the seventh week the child was discharged. The heart's action was then lively, the cardiac bruit still rough, and the second pulmonary sound distinctly accentuated.

The possibility of a cure of endocarditis—an idea first started in recent times by Dr. Jaksch—can no longer be doubted. But it always depends on the extent and intensity of the process whether, after moderate inflammation and swelling of the valves, with or without thickening and shortening of the chordæ tendineæ, recovery may take place in a short time without a sufficient amount of shrivelling to cause permanent incompetency of the valves. Mere thickening of the valves does not exclude their capacity for closing ; the shortened chordæ tendineæ may be stretched out again, and extensible portions of the valves, or a valve that has remained intact, can endure much stretching and extension, as

has been demonstrated by Aufrecht in a reported case of aortic insufficiency with recovery. Here one of the valves was reduced to a small fibrous nodule; the orifice, however, in spite of this could be closed by the other two valves, so that no symptom of the old disease was any longer to be made out. With regard to the cause of the dilatation of the heart in cases of valvular incompetency with acute endocarditis, Dr. Steffen is of opinion that it is partly mechanical, since the blood with every systole of the left ventricle is forced backwards into the auricle, and partly due to a yielding of the walls of the heart, since, in addition to the left, the right cardiac cavities at a later period become gradually dilated.

The last case, which terminated fatally on the eleventh day, was one in which a boy, thirteen years of age, suffered from diffused swelling of the left leg and the right wrist and knee, which rapidly progressed to suppuration. Dilatation of the heart was rapidly developed, and there was a bruit with the first sound. There was also mechanical insufficiency of the mitral valves, the intensity of which kept pace with that of the dilatation. As the valves were found to be normal, the dilatation was caused by yielding of the walls of the heart due to inflammation of the pericardium, especially in the left ventricle, where this membrane was clouded and studded with numerous microscopic apoplexies. The lungs presented in all parts metastatic deposits. There was diffuse nephritis of both kidneys, and the spleen was soft and discoloured. There was periostitis of the left tibia and right ulna, with purulent exudation. The fever had been moderate, the highest temperature having been 39·6° C. On the seventh day the patient suffered from diphtheria of the oral mucous membrane which gradually extended to the larynx.

The following are among some concluding remarks made by Dr. Steffen on the diagnosis of acute endocarditis:—The determination of cardiac dilatation enables the physician to distinguish endocarditis from those conditions in which valvular murmurs arise as a result of anæmia or of purely functional affections of the heart. With inflammation of the mitral valve and insufficiency the murmur precedes the dilatation; with inflammation of the endocardium lining the cardiac chambers the reverse takes place. Transmission of the cardiac murmurs to the carotid and axillary arteries will protect one from confounding endocarditis with pericarditis.

Art. 257.—*Case of Tetanus Neonatorum Treated with Chloral Hydrate.*

By Dr. Widerhofer.

(*The Lancet*, March 18.)

Dr. Widerhofer showed lately to his class a child of three months old, which was attacked by tetanus neonatorum at the end of the first week after birth, and was treated with chloral hydrate in doses of one and two grains at the time of each onset of convulsions. It was in danger for a fortnight. During the intermission of the spasms it was fed from the breast by its mother. It is now a fine, healthy-looking child. This is the sixth case (out of ten or twelve) that Dr. Widerhofer has had of

recovery under treatment by chloral. Under all other methods all his previous cases died. Considering that Vogel, and other great German authorities on children's diseases, had quite recently never seen a case of this affection recover, such a success must be taken to indicate a real advance in therapeutics. Dr. Widerhofer gives from two to four-grain doses of chloral by the rectum, if the infant cannot take it by the mouth.

Art. 258.—*On Diseases of the Kidney in Infancy.*

By Prof. J. Steiner and Dr. N. Neureutter.

(*Vierteljahrschrift für die praktische Heilkunde*, xxvii., 1870; *Schmidt's Jahrbücher*, No. 2, 1871.)

"The authors give the results of their extensive clinical experience in the Francis Joseph Hospital for children in Prague. The observations were collected from nearly 10,000 young subjects:—

"A.—*Congenital Affections.*

"Absence of one kidney was observed in two cases, one a boy aged eight years, the other a girl of the same age. In both instances the left kidney was wanting, and the single organ present was diseased—lardaceous change and abscess in the cortical substance. The boy died from tuberculosis; the girl from scarlatina.

"Lobulated kidney was observed frequently, the so-called horse-shoe kidney in three instances, in all of which there was a single ureter.

"B.—*Acquired Affections.*

"1. *Increased volume.*—As abnormal increase in size of the kidney always depends upon disease of the renal tissue, this condition, together with abnormal diminution due to wasting of the parenchyma, will be described further on. Marked smallness occurs in cases of faulty nutrition of the body and in atrophied and marasmic children, but here the diminution in the size of the kidney is but one of the results of general atrophy. In one subject, a girl aged eight years, there was unilateral diminution, caused by the pressure of an enormous liver, which had undergone amyloid degeneration.

"2. *Hyperæmia of the kidneys*, by itself, is of much more frequent occurrence in children than anæmia, as the diseases of the renal vessels, atheromatous degeneration for example, which result in this condition, never occur in infancy; and other affections, such as abdominal tumours, which may compress the renal vessels, are seldom met with at this period of life. On the other hand, the soft and yielding nature of the kidneys and the adjacent structures are much more favourable for the development of hyperæmia. Renal hyperæmia—arterial and venous, general or partial—is most frequently observed in cases of heart and lung disease, and chiefly with diffused bronchial catarrh, with and without bronchiectasis, whooping-cough, broncho-pneumonia, croupous pneumonia, pleuritic exudation, pneumonic and tuberculous pulmonary phthisis, croupous laryngitis. Hyperæmia takes place more readily in connexion with these

diseases if the patient be simultaneously affected with deformity of the thorax, from rickets or caries. Autopsies in cases of scarlatina, small-pox, measles, cholera and typhoid fever, almost always reveal renal hyperæmia.

"In various nerve affections, as tetanus, chorea, and convulsions from various causes, there is found to be hyperæmia of the kidneys. The authors found themselves able to confirm the assertion of Beckmann that in young children suffering from diarrhœa and atrophy renal hyperæmia occurs as a result of the loss of cardiac energy, except only in very prostrate subjects, in whom the kidneys, with all other organs, are found to be anæmic.

"3. *Anæmia of the kidneys* is a result either of a disturbance of the circulation or of general anæmia, or is nothing more than a local change due to parenchymatous disease of the kidney.

"4. *Renal hæmorrhage* in children occurs not unfrequently in the form of ecchymoses. In no case was the effusion of blood so profuse as to justify one in speaking of a renal apoplexy. The hæmorrhage rarely occurs without simultaneous disease of the renal parenchyma. It is most intense in cases of purpura and variola hæmorrhagica. A case of the latter disease occurring in a girl of twelve years, and ending fatally at the third day, is especially mentioned. At the autopsy, in addition to the skin affection, hæmorrhages into the subcutaneous connective tissue, the muscles, the pleura and peritoneum, the gastric and intestinal mucous membranes, and in the kidneys. Intense hæmaturia had been observed during life. Hæmorrhage from the kidney and hæmaturia were observed also in cases of scarlatina, croupous pneumonia, scrofulosis and tuberculosis of the lymphatic glands. The causes of the hæmorrhage in these cases is to be sought for partly in alteration of the blood, partly in disturbance of the circulation, and in morbid changes of the blood-vessels themselves. In a case of tubercular meningitis in a girl aged six and a half years there was observed intercurrent hæmaturia which continued for some days, but disappeared again when the symptoms of cerebral compression had attained their highest degree. As on post-mortem examination fresh tubercle was found in the kidneys as well as in the meninges, the lungs, and the liver and spleen, the intercurrent hæmaturia might probably have corresponded to the period when, as a result of the development of tubercle in the kidneys, disturbed circulation and bleeding had taken place in the urinary tubules. At a later period, a girl two years of age was under treatment, whose urine of two days contained a considerable quantity of blood-corpuscles; immediately before the appearance of the blood the child had jumped about her room with unusual activity, for which reason the case was considered to be one of renal hæmorrhage resulting from increased blood-pressure caused by the forcible movements. In another case, hæmaturia, relapsing from time to time, was observed in a boy affected with chronic pemphigus.

"5. A very long chapter is devoted to *albuminous nephritis* (*diffuse parenchymatous nephritis, morbus Brightii*). The authors have been convinced that this disease occurs much more frequently than is generally supposed. In 265 cases was the existence of Bright's disease made manifest by post-mortem examination. The anatomical changes in the kidneys were

of course modified in many ways, according to the various forms and stages of the disease.

"The acute form was observed in 213, and the chronic form in 52 instances. It is worthy of remark that the acute form occurs more frequently in girls (97 boys, 116 girls), and the chronic form more frequently in boys (46 boys, 6 girls): under the acute forms of the disease catarrhs-croupous or desquamative nephritis occurred in 20 cases (8 boys, 12 girls); acute parenchymatous nephritis in 86 cases (37 boys, 49 girls) with great extent and intensity of the process and a rapid course; in 107 cases (52 boys, 55 girls) less extensively, and with a sub-acute course.

"Under the chronic forms amyloid changes existed in 46 cases (30 boys, 16 girls), and granular changes in 6 cases (2 boys, 4 girls).

"The stage of hyperæmia and exudation was observed 53 times (23 boys, 30 girls), the stage of fatty degeneration 160 times (74 boys, 86 girls), the stage of granular atrophy 6 times (2 boys, 4 girls).

"Hyperplasia of the interstitial connective tissue was also observed, though never in so high a degree as it attains in adults. In the 265 cases the disease occurred five times only as a primary process.

"*Symptomology.*—The symptoms vary not only according to the condition of the kidney, but also according to the individuality, the children, and the complications and causes of the disease. The authors confirm the opinions of Lebert and Vogel, that in infancy the symptoms of various forms of the disease are combined so that the physician during the life-time of the patient must be content with simply diagnosing the case as one of Bright's disease. It is exceptional for the clinical phenomena to correspond to one distinct form of Bright's disease.

"The most important and characteristic symptoms of Bright's disease are the changes in the urine and the obstructed excretion of the same fluid. Attention is to be paid before all other things to the albuminous condition of the urine. The quantity of albumen varies very much, it is greater in acute than in chronic cases. Although from the continuance and intensity of the albuminuria conclusions may be drawn as to the nature and extent of the disease of the renal parenchyma, still it should be remembered that the value of this symptom is only relative, as albuminuria may occur during infancy without any disease of the kidneys, and be due to disturbances in the circulation, to stenosis of the air-passages, &c. Albuminuria becomes valuable as a symptom of Bright's disease when it is associated with the presence of solid elements in the urine. These elements are:

"(*a*) *Blood globules.*—The presence of these elements often constitutes the first symptom of Bright's disease in children. The quantity varies very much, though it is never very great. This symptom is, as a rule, a transient one, but it frequently returns with exacerbation of the disease. The amount of blood-corpuscles usually bears an inverse proportion to the daily quantity of the urine.

"(*b*) *Pus globules.*—These are observed only with complications such as pyelitis, urethritis, purulent nephritis.

"(*c*) *Granular cells*—These occur only in the stage of fatty degeneration.

"(*d*) *Epithelial cells* of the urinary tubules and epithelial casts are, as blood-globules, frequently the first signs of the development of

the disease, and, in many cases, appear before the blood-globules. In children attacked by scarlet fever these bodies often present themselves at the commencement of the affection and during the eruption. The amount of epithelium which is detached varies very much according to the intensity of the malady; when it is small no profound morbid changes in the functions of the kidney result, but when profuse it may lead to blocking of the tubules, to obstructed circulation, to exudation into the tubules, or to fatty degeneration of the epithelium, and so to the development of Bright's disease. The renal casts or epithelial cylinders vary in length and thickness, in correspondence with the urinary tubules. In the majority of cases of Bright's disease from scarlet fever, the smaller tubules are affected, and as these can be freed of desquamation by the urine secreted above, it is evident why these cases generally run a favourable course.

"(*e*) *Renal cylinders* are found during infancy, though rarely in large quantities. They may be easily overlooked, particularly when they are small and colourless.

"(*f*) *Blood cylinders*, and—

"(*g*) *Fatty and granular cells and fatty detritus*.—The former elements are generally met with for the first time on post-mortem examination, the latter, during life.

"The *diuresis* is generally spare, and the more acute the form of Bright's disease the richer is the urine in colouring matter and urinary acids.

"*Fever* is never absent in the acute forms of the disease; in the subacute forms it is less marked, and in the chronic forms it is almost entirely absent. In the chronic affection, however, fever may come on with an acute exacerbation, or with the occurrence of complications. In chronic Bright's disease, the pulse not unfrequently falls below the standard, and also becomes irregular.

"*Dropsy*, next to fever, is the most frequent, though it is by no means a necessary, symptom of Bright's disease. Two cases are reported by the authors of the disease following scarlatina, in which, notwithstanding considerable renal affection that had lasted for three days, and anæmic attacks, no anasarca or dropsical effusion into the serous cavities was observed. The dropsy appears as cutaneous œdema, anasarca, or as effusion into the serous sacs. With excessive effusion into the serous cavities, the anasarca is generally less severe. The frequency of the different forms of dropsy with Bright's disease is shown in the following table of 50 cases:—

"Anasarca	22	instances.
Ascites	12	„
Hydrothorax	10	„
Hydrocephalus, œdema of brain, and meninges	6	„
Œdema of lungs	6	„
Hydropericardium	5	„
Œdema of glottis	1	„

"Dropsy is either developed rapidly, and is often accompanied by severe uræmic phenomena, or it has a very slow and almost imperceptible

course. The various forms of hydropsy are caused, in infancy at least, as well by the removal of albumen from the blood as by the draining of blood-serum. The authors observed some cases in which profuse albuminuria preceded the dropsy, and others in which the albuminuria and dropsy came on simultaneously, and others, again, in which the albuminuria was so slight that it could not account for the dropsy. Vogel holds that the dropsy in cases of this kind is to be regarded as a complication, and not as a result of the renal affection.

"*Symptoms presented by the nervous system.*—The purely nervous symptoms of Bright's disease, which may be excited through serous infiltration of the central nervous organs, or through anæmia of the cerebral substance, cannot be very readily distinguished clinically from those due to uræmia and ammoniæmia, and must therefore be regarded in common with the latter.

"Headache, more especially in the frontal region, is a very constant symptom in grown-up children. Young children indicate this symptom by painful expression of the face and by putting the hand to the head. Next to the headache occur alarming mental symptoms. Convulsions, both partial and general, constitute a further important symptom. These may occur at an early stage of the renal affection, when they are not, even when sudden and intense, of any dangerous import, as they generally disappear for good with the appearance of a profuse secretion of urine; or the convulsions may come on at the end of Bright's disease, when they are almost always the harbingers of death. Hand-in-hand with the latter appear more or less deep sopor and a comatose condition, which persist until the fatal termination of the case. In young children, gnashing of the teeth during sleep is a sign of uræmic irritation of the brain. Delirium was observed but seldom in children below the age of four years, pretty regularly in those above the age of five years. This symptom disappears with increase of the diuresis, or with commencing coma.

"*Visual disturbances.*—In a few cases of scarlatinal Bright's disease total blindness occurred, which either disappeared in the course of two or three days, or in some fatal cases lasted until the end. Other children frequently passed their hands across the eyes as if to brush away something, and gave the idea that sight was obstructed by a mist. In one case of acute Bright's disease hemeralopia was observed. The anatomical cause of this visual disturbance consists, according to the degree and the duration of the disease, either in a transitory affection of the retina—hyperæmia or œdema, or in some profound change in this membrane—inflammation, ecchymosis.

"Among other morbid phenomena complicating Bright's disease in children were observed various affections of the alimentary canal and of the thoracic and abdominal organs. The chief of these were catarrhal and croupous affections of the oral, pharyngeal, gastric, and intestinal mucous membrane, bronchial catarrh, pneumonia, pleuritic exudation, and pulmonary tuberculosis. These complications may readily lead to a mistake in diagnosis, when with chronic nephritis a complete history of the case cannot be obtained; when dropsy is absent and a precise examination of the urine cannot be made. Finally, dilatation and hypertrophy of the left ventricle of the heart are to be remembered as likely

complications, as this condition was frequently observed by the authors, and, indeed, more frequently in chronic than in acute forms of Bright's disease. As the chronic form is less frequent in children, the rarer occurrence of hypertrophy of the left side of the heart may be thus explained :—

"The single subjective symptom which was made out only in grown-up children, is a sensitiveness or feeling of pain over the region of the kidneys and along the course of the ureters.

"*Age.*—The 255 cases of Bright's disease in children are divided, with regard to the ages of the patients, in the following manner :—

"Of children under 1 year	10 cases.
Of children between the ages of 1 and 4 years . .	100 „
Of children between the ages of 4 and 8 years . .	93 „
Of children between the ages of 8 and 14 years .	62 „

"The youngest patient was aged three months, the oldest fourteen years.

"The greatest number of cases is met with in children from two to eight years of age, a period when the acute exanthems, scrofulous and tuberculous lesions, and also intestinal affections, most frequently occur and act as remote causes of nephritis.

"*Sex.*—Whilst in adults Bright's disease occurs in males more frequently than in females, in infancy both sexes are almost equally affected (129 boys, 136 girls). This may be due to the fact that the conditions giving rise to Bright's disease in infancy occur with equal frequency in boys and girls.

"*Etiology.*—The causes of nephritis are partly immediate, partly remote. The former, or those acting directly upon the kidneys, as a blow or kick, and abuse of diuretics, the authors have not observed in children. Of the causes acting indirectly upon the kidneys, which favour the development of nephritis, the following are placed in the front rank :—scarlatina, measles, variola and scarlatina. The frequency of Bright's disease changes according to the character of the epidemic; the percentage of the affections fluctuated in the authors' cases between thirty and six. The renal affection in scarlet fever constitutes as an essential symptom of the disease as the skin eruption and the angina, although it varies in kind and in degree. It may exist either as hyperæmia, as catarrh of the tubules, or thirdly, as active diffused nephritis. From the two former affections diffused nephritis may, under the influence of certain favourable conditions, be readily developed. Bright's disease occurs much more frequently after scarlet fever than after measles and variola. Out of the 265 cases there were thirty-six of Bright's disease after scarlet fever, seventeen after variola, and six after measles. The double affection in which acute is added to chronic Bright's disease was observed after scarlet fever in ten cases, after variola in five cases, and after measles in eight cases; hence the number of cases of Bright's disease occurring in the course of the acute exanthemata may be put down as eighty—nearly one-third of the total number. Bright's disease was observed in 105 instances in connexion with scrofula and tuberculosis, and twenty-two times in prolonged suppuration resulting from diseases of the bones or joints. Among the remote causes must be mentioned affections of the intestinal canal (follicular catarrh and suppura-

tion in sixteen cases); and, finally, cholera, rickets, chronic broncho-pneumonia and bronchiectasis, pleuritic exudation, chronic skin affections, and typhus. In one case reported by the authors, fatal Bright's disease attacked a boy twelve years of age, who was affected with chronic exanthems—scabies, prurigo, ecthyma.

"*Course and termination.*—The disease is generally developed more rapidly in children than in adults, although in the former it sometimes takes a very insidious course. The termination is relatively more favourable in children, as results from the nature of the causes of the disease, which causes, especially the acute exanthemata, give rise to a rapid and transient affection of the kidneys, and do not produce permanent and profound lesions of these organs.

"The *prognosis*, as may be gathered from the above remarks, is relatively more favourable in children than in adults. The rapid or insidious appearance of the disease, the supposed extent of the same, the complications, and, above all, the etiological factor, are, with regard to this point, of the greatest importance.

"*Treatment.*—As we possess no specific against Bright's disease, our treatment can be applied only to symptoms, and be one to be adapted to each special case. To prophylaxis in scarlet fever (prevention of chilling during the stage of desquamation) the authors do not attach much importance; they recall the fact how often scarlatina is observed without Bright's disease among the children of the poorest families living in dark and damp dwellings the temperature of which seldom or never reaches above 8° R., whilst children thus affected, who are treated with every care, become the subjects of fatal nephritis. For the treatment of the renal lesion itself the authors recommend infusion of digitalis, and, if this be not tolerated, a mixture containing nitrate of potash. As a tonic in cases of long-continued albuminuria and hydræmia quinine is stated to be useful; tannin is not tolerated by children, and generally fails to do what is expected from it. For dropsy the authors recommend, in addition to diaphorisis, a not too timorous administration of purgatives (infusion of senna, so as to produce from six to eight free stools in the twenty-four hours). The obstinate vomiting that occurs in connexion with uræmic poisoning indicates the administration of ice and soda-water; it may be also relieved by bismuth and laudanum. Against convulsions cold and damp swathing has proved a means of giving relief."

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APPENDIX.

Art. 1.—*Report on Dr. Beauperthuy's Method of Treatment of Leprosy.*

By R. H. Bakewell, M.D., Medical Officer of Health for the Colony of Trinidad.

(*Correspondence relating to the Discovery of an Alleged Cure of Leprosy.* Presented to both Houses of Parliament, May, 1871.)

Having had the opportunity of observing the effects of Dr. Beauperthuy's treatment for a period of more than a year and a half on thirty-eight cases, Dr. Bakewell has come to the following conclusions:—

"1. That with very rare exceptions (amounting so far only to one case in forty) the treatment will entirely remove all external appearances of leprosy and restore the sensibility to anæsthetic parts in recent cases where the disease has not attacked the mouth or larynx.* By recent cases, I mean cases that have commenced within the two years preceding the commencement of the treatment.

"2. That in such cases all symptoms of the disease cease for an uncertain period, in no cases, so far, less than eight months.

"3. That in some cases the cure has been permanent for more than three years.

"4. That in advanced cases where a complete removal of the disease is either obviously impossible or has not yet been obtained, a great improvement has taken place, by the diminution of the amount of tubercles, the restoration of sensibility and powers of motion, either partially or wholly, to diseased members.

"5. That the treatment is not applicable to the most advanced cases, where it would probably shorten life.

"6. That, as far as I have observed, the improvement is solely due to the regimen, the diet, the baths, and the external applications, the administration of the bichloride of mercury having nothing to do with it, but, on the contrary, causing derangement of the stomach. The improvement was as marked in a girl treated by alkalies as in other

* This is a rough measure of its severity. In some *very* rapid recent cases (*i.e.* cases under two years' duration) the mouth *is* attacked. Then, generally, the whole surface of the body is more or less diseased, and the case is a very severe one.

patients, and went on in them just as well when the mercurial was discontinued as during its administration.

"7. That unless the external manifestations of the disease are thoroughly removed, and the patients can continue for a long period to follow the same regimen, diet, &c., as during their treatment, they will in the large majority of cases relapse, even although temporarily cured.

"8. That nevertheless the tubercles are really cured and the skin is restored, though but for a time, to a healthy condition. The action of the oil of cashew-nut is not that of a caustic simply destroying a foreign growth. There is no scar after repeated applications, and the action that takes place in the tubercles is vital and not chemical.

"9. That further experiments should be made with the view of ascertaining whether any modifications can be made of the medicines administered internally, so as to render relapse less probable, even when the patient is placed under unfavourable conditions.

"10. That seeing the extremely chronic nature of the complaint, the length of its incubation, even when transmitted direct from parent to child, and the important influence exerted on its development and progress by diet and regimen, it is expedient that patients, even when apparently quite cured, should be kept under observation for at least twelve months, using the diet, baths, and hygienic treatment, but omitting the applications and the internal medicines."

"*Rules for the Treatment of Lepers by Dr. Beauperthuy's Method.*

"1. The patients selected for treatment should be in an early stage of the disease, that is to say, should not have been suffering from leprosy more than two years, and only those should be chosen in whom the disease is entirely confined to the skin, or has very slightly invaded the mouth. If the larynx has been attacked, and in other respects the patient is eligible, he should be distinctly informed, *if treated at all*, that it is only with a view to amelioration, and not to cure, that his case is undertaken. So far, no case has been absolutely cured in which the interior of the mouth or the larynx had been invaded. The slighter the case the more easy and rapid is the cure. Both anæsthetic and tuberculous cases are eligible.

"2. The treatment is of three parts—1st, hygienic; 2nd, external applications to the diseased parts; 3rd, internal medicines.

"3. The hygienic treatment, which is absolutely essential, and without which nothing but the most temporary improvement can be attained, consists of pure air; nourishing food, including a moderate quantity of fresh meat daily; abstinence from all salted meat or fish, and from pork, whether salt or fresh: a sufficient quantity of fresh vegetables must be given; and if the patients are habituated to its use, a moderate quantity of light wine may be given, but this is not necessary.

"4. Each patient must have a separate room, and mosquito nets round his bed, if he resides in a climate where mosquitos exist.

"5. Each patient must have separate bedding, clothing, and eating and drinking utensils. [These should all be numbered, so as to avoid confusion, as there is nothing that so much disgusts lepers as being obliged to use articles belonging to other lepers.]

"6. The external applications consist of (*a*) soap-and-water baths twice a day; frictions over the whole of the skin with oil. Cocoanut oil is always used at Trinidad and Cumana, but olive-oil might be employed if more convenient. The oil is well rubbed in and allowed to remain on for three or four hours, when the body is thoroughly cleansed by a soap-and-water bath.

"7. The oil of cashew-nut is applied, by means of a small piece of sponge, to the diseased parts. This application should be made at first only over a small portion of the skin, as large, for instance, as the hand, and when the effect of the first application is seen, subsequent ones may be made larger if deemed advisable. The effect of the oil is to produce, after from twelve to twenty-four hours, vesication. The skin should, if possible, not be broken, and the exudation should be allowed to remain and dry on, so as to form a crust. In about ten or twelve days this will fall off, leaving the skin clear and free from any ulceration underneath. If the parts are numbed, but not completely anæsthetic, sensibility will in general be completely restored by the first application; if the anæsthesia is complete, it may require two or three applications to restore it, but I have seen this latter number suffice in a case where anæsthesia had existed more than four years.

"8. After the first application or two, the patients will generally be anxious to have much larger surfaces operated on. I do not think it safe, however, to do more at one application than a leg or a forearm, or an equal surface elsewhere. *The applications should not succeed each other at intervals of less than a week.*

"9. If the patients are troubled, as is very often the case, with herpectic or other eruptions, Dr. Beauperthuy employs two liniments with great success. The one called

"*Liniment No.* 1 is made thus:—Saturate an ounce of alcohol with iodine. When the solution is complete add a solution of caustic soda to excess; a little more or less is of no consequence, provided there is enough to unite with all the iodine; then add twenty-four ounces of olive or cocoanut oil. This must be well shaken up before it is used.

"*Liniment No.* 2.—Take the yolks of two eggs; balsam of copaiba, four and a half fluid ounces; mix to form an emulsion; add one pint of olive or cocoanut-oil.

"May be employed in all those cases where there is a squamous or scurfy condition of the skin, in lieu of the oil baths.

"10. Where the feet are affected, as it is not convenient to use the cashew-nut oil* for them, baths of hot cocoanut-oil may be used night and morning. These must be superintended by a skilled attendant, who tests the heat with a thermometer, as the patient's sensibility will generally be deficient or null, and if trusted to him he might scald the feet without knowing it. The heat should not exceed 100° Fahr.

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* "Oil of cashew-nut is the oil found in the pericarp of the Anacardium Occidentale (Linn.). This tree is very abundant in the West Indies, and probably in the East, too. The nut is an article of commerce, under the name of "Monkey nut," from its resemblance to the face of that animal. The oil may be made thus:—The bruised pericarp is digested in strong spirit for a day or two; it should be shaken frequently; the tincture is poured off and allowed to evaporate spontaneously in the sun. On no account must it

"11. The internal medicines administered by Dr. Beauperthuy are perchloride of mercury (Ph. Br.), in doses of one-fifteenth to one-twentieth of a grain twice a day for adults. In cases where mercury is contra-indicated, Dr. Beauperthuy gives carbonate of soda, in doses of ten grains to a scruple twice a day. I have seen one case in which I tried the alkali, and which progressed quite as satisfactorily as those to whom the mercurial was given.

"12. It is of course to be understood that the treatment may be interrupted or modified, if any complications occur. Should the mercurial affect the mouth, or cause any irritation of the intestinal tract, it should at once be discontinued, and the alkali given.

"The treatment described above has been adopted by me at Trinidad, and has in every one of my cases more than answered my expectations. All the cases have rapidly improved; one was so nearly cured after five months' treatment, that he insisted on going home; the others are still under treatment, but the latest news received from them is of the most encouraging description."

The oil of cashew-nut, prepared under Dr. Bakewell's direction, may be procured from Messrs. Savory and Moore.

Art. 2.—*On the Corrective Influence of Bromide of Potassium on Opium.*

By J. M. Da Costa, M.D., Physician to the Pennsylvania Hospital.

(*American Journal of the Medical Sciences*, April.)

In an article in the *American Journal of the Medical Sciences* for April, 1870, Dr. Da Costa called attention to the influence bromide of potassium exerts on the unpleasant effects produced by opium. In the April number of the same journal he gives some cases which led him to form this opinion, and to examine more particularly into the combined action of these valuable agents. He says:—

"The first case in which I fairly studied the subject was under my charge about two years ago. A lady affected with a most painful enteric malady, and of very susceptible nervous system, was often attacked with seizures of abdominal pain of most severe character. Yet she generally bore them until they exhausted themselves without taking any remedy, or with such slight help as remedies, excepting opium, afforded, rather than subject herself to the distress this medicine caused. It was not fancy on her part; for when at times, on account of the excruciating character of the pain, she was obliged to resort to opium—

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be subjected to any artificial heat over 120° Fahr., as at a very low temperature the oil becomes resinous and quite inert. The oil will be found floating on the top of the tincture, and may be skimmed off. The cashew may be treated repeatedly with spirit until all the oil is dissolved out. The pericarp must be well bruised in a marble, stone, wedgwood, or wooden mortar (not in an iron one).

usually black drop, which, of all preparations, produced the least disturbance—I have stood by her bedside and myself witnessed the effects of the anodyne. There was relief, certainly, of the abdominal distress, but also itching or tingling sensations all over the body, amounting to positive pain; then numbness more or less extended, usually accompanied by a sense of sinking, and a faintness most severe and constant, and uninfluenced, or with difficulty relieved by stimulants. Complete unconsciousness did not occur, or only existed for a minute or two, when she thought she slept, though a slight movement instantly aroused her; but to use her own expression, she was 'alive nowhere except the head and heart.' Perhaps the best statement of the result from giving the bromide is afforded by still further quoting my observant and accomplished patient in an extract from a note from her:—'I have been sending my thoughts back to the time when opium was my horror, and severe pain as easy to bear as its effects. If the pain was relieved, the faintness would return after twelve, fifteen, or even twenty-four hours from the time of taking the opium. Now, on taking twenty grains of the bromide one-half hour before a dose of the watery extract, and again about two hours afterwards, I am pretty secure.' From the first time in which, when giving her the bromide, its influence in preventing the unpleasant consequences of opium was noticed until the present the bromide has not failed us once. On morphia it has least influence, and morphia and codeia always affected her the worst. Still it has an influence, and four doses keep her tolerably comfortable.

"A case as striking, though not one in which the observation has been as often repeated, is that of an old lady subject to attacks of diarrhœa, and in whom all opiates, even paregoric, produced faintness, marked, though not so marked as in the preceding instance, but much more decided headache and nausea. By taking forty grains of bromide in twenty grain doses, beginning about three hours before she takes opium, she bears perfectly well twenty-five drops of laudanum.

"Of another case I transcribe the record, as kindly kept for me at the Hospital by my resident physician, Dr. James C. Wilson. It reads thus:—

Annie C., Irish, aged thirty-five, a domestic, widow. Admitted into the Pennsylvania Hospital, February 8th, 1871, suffering with anæmia and impaired digestion, which, however, is not associated with any manifest organic disease; was placed upon tinct. ferri chloridi gtt. xx, t. d., and good diet.

February 12th.—Complains of sleeplessness; states that she was awake all last night. This report was corroborated by the night nurse. Was ordered liq. morphiæ sulph. f℥ij. at bedtime.

13th.—Passed a sleepless night. After taking the morphia she experienced a feeling of great weakness; felt dizzy and confused; described herself as "seeing all kinds of strange things." She had headache as these phenomena passed away, with dryness of the throat and great restlessness, which lasted until morning. On rising she had intense nausea and vomiting, which continued until noon. 2 P.M., given potassii bromid. gr. xxx. 8 P.M., liq. morphia sulph. f℥ij as last night. Pulse 128, respiration 28, temperature 100°.

14th, A.M.—Pulse 108, respiration 24, temperature 98¾°. States that she slept very well, and feels in every respect quite as well as usual. No dizziness nor headache; no nausea nor vomiting followed the administration of the morphia.

17th, P.M.—Pulse 116, respiration 20, temperature 99½°.

18th, A.M.—Pulse 96, respiration 20, temperature 98¼°. Had taken no medicine, except the tinct. of chloride of iron, since the evening of 13th inst. She again complains of sleeping poorly. Last night she did not fall asleep until towards morning. 8 P.M., given tinct. opii deodorat. gtt. xxv. Pulse 83, respiration 20, temperature 99°.

19th, A.M.—Pulse 76, respiration 20, temperature 99°. She states that after taking the medicine last night she felt weak and faint, was dizzy, and fancied that she saw curious and grotesque objects; had no pain in her head, but was restless, and had no sound sleep, although she dozed at times. Had a feeling of faintness and nausea on rising, but no vomiting. 6 P.M., took potassii bromid. gr. xxx; 9 P.M., tinct. opii deodorat. gtt. xxv.

20th.—Fell asleep about midnight, and slept well till morning. Had some dizziness, but no feeling of faintness; no confusion or headache after taking the opiate. Had no nausea, vomiting, or faintness on rising.

"I will briefly cite one more case, which was very recently under my observation.

A young lady, in whom opium produced most decided faintness and nausea, was attacked with muscular rheumatism, and took laudanum at night to relieve her discomfort. She sent for me the next morning, and I found her with dry throat, giddy, and weak. Prescribing the bromides, partly to counteract the effect of the opium, partly for other reasons, she was enabled to take the opiate without the least inconvenience; and, when a few days afterwards I found that she had been resorting with impunity to an opiate of either Dover's powder or laudanum, every night, I ascertained that, by a misunderstanding of orders, she had continued to take the bromide mixture, in addition to the prescription of acetate of potassa and colchicum, which I had directed to replace it.

"I might continue to multiply this narrative of cases, but it will not make the subject any clearer. I shall rather investigate the result, in some special directions, of giving the two remedies. The bromide does not destroy either the anodyne or the hypnotic effects of the opiate; on the contrary, it rather heightens both, and more particularly the latter. To quote again from the letter of my first patient:—'The more bromide I take the sooner do I get sleep after a dose of opium. Two doses of bromide (twenty grains each) are not usually enough to counteract the exciting effects, and procure sleep under five or six hours from the time of taking.' The faintness from opium is the phenomenon most markedly prevented; next in the readiness of being influenced stand the headache, vertigo, and nausea, then the itching of the surface, and dry mouth.

"The bromide has seemed to me to act best when it is given some hours before the opium, and forty to sixty grains—generally forty grains—prove sufficient. But it also has an action, sometimes, however, markedly less, when combined with opium; and should unpleasant consequences have accrued from this, the bromide will mitigate their severity. Even the cutaneous itching is favourably influenced, and I have known repeated doses most decidedly affect the faintness. When morphia is used hypodermically, it is then most necessary to give the bromide some time in advance, and it may take larger doses to accomplish the purpose. At least it has so seemed to me—though I have not often tested this, since

most of the observations were made in persons who took opium by the mouth.

"Now, though I think that the corrective influence of the bromide on opium holds good as a general truth, we meet at times with exceptions. Dr. Wallace, to whom I had mentioned the matter, told me that while he had in several instances obtained the most gratifying results, he had failed in one; and Dr. James C. Wilson has taken notes for me of a patient in the Pennsylvania Hospital suffering from advanced phthisis, in whom sleepiness, a feeling of confusion, dizziness, and dull throbbing, frontal headache, and nausea and vomiting in the morning were caused by one drachm of the solution of sulphate of morphia. The addition of the same amount of spirits of chloroform obviated the unpleasant results, though it finally failed; and sixty grains of the bromide did not prevent one-fourth of a grain from producing the disagreeable consequences.

"But these exceptions are not, I believe, numerous, and the bromide does not often disappoint. Of course, in investigating its value with reference to the questions here discussed, we have to test it on those with whom opium really disagrees, and not on such who merely say that it does; for, from some reason or the other, many persons seem to think it a point of honour to make this statement, though out of ten such persons nine are quite certain to be able to bear the anodyne as readily, and to derive as much advantage from it, as the rest of mankind with whom it professedly does not disagree. Yet considering the number of therapeutical applications of the invaluable drug, and the fact that we may be prevented from using it in instances in which its employment might be of the greatest moment, because to use it seems impossible, it will be of service to be able to control its action, and the remarks here made will, I trust, prove to represent the full truth. Moreover, they may be looked upon as a contribution towards a most interesting and comparatively neglected part of therapeutics, what may be called the *corrective influence* of one drug over the other; corrective in obviating its bad results, while not interfering with, but rather heightening, the good ones."

Art. 3.—*On the Treatment of Syphilis by Hypodermic Injections of Corrosive Sublimate.*

By R. W. Taylor, M.D., Surgeon to the New York Dispensary, Department of Venereal and Skin Diseases.

(*New York Medical Gazette*, May 13.)

Dr. Taylor's observations upon the treatment of syphilis by injections of corrosive sublimate extend over a period of eighteen months, and were conducted upon about fifty patients, male and female. Before he adopted the method, he was impressed by the excellent results which its advocates had obtained, and he was anxious to determine, from personal observation, the real merits of the treatment; more especially as other observers, who have published their opinions, had tried it, and had not obtained the measure of success which had been claimed for it.

As the author has had the opportunity of seeing many of his patients upon different occasions since they were thus treated, and has been able to compare their progress with that of others who were treated at the same time by mercury, in the old way, and again with that of others who took no mercury at all, he thinks he is now warranted in drawing conclusions as to the real value of the treatment. Dr. Taylor gives his views in the following aphorisms :—

1. That the use of the bichloride of mercury by hypodermic injections, though a method of treatment possessing certain advantages is, for various reasons, of limited application.

2. That it is useful in the whole secondary period of syphilis, in roseola, and in the various papular syphilides, and in that form of pustular syphilide in which there is only slight tendency to the formation of pus.

3. That it very rapidly cures all syphilitic neuroses, and that it is very beneficial in the cachexia of syphilis, whether accompanied or not by perceptible lesion.

4. That it possesses no advantages over other modes of administering mercury in the treatment of mucous patches and condylomata lata ; and that these lesions yield more rapidly to a local than to any form of constitutional treatment ; and that in the syphilitic lesions of the nervous system and of bone, particularly if late, its use is not to be commended.

5. That the very early tertiary syphilitic lesions, provided they are not of an ulcerative character, may be very much benefited by it, and that the simultaneous administration of iodide of potassium internally, may produce a cure more rapidly than when the two are given internally.

6. That the peculiar advantages of the treatment are : the smallness of the amount of mercury used ; the rapidity of action ; and the absence of systemic disturbance.

7. That a very minute quantity of mercury, averaging from two to three grains, thus administered, may cause the disappearance of very extensive syphilitic lesions, and the alleviation of very severe symptoms.

8. That in the greatest number of cases, an injection every second day of an eighth of a grain of the bichloride of mercury will produce a cure in rather less than two months, and that in very urgent cases they may be pushed, with good effects, to the extent of one or two daily.

9. That the rapidity of cure is the rule rather than the exception, and that the time required may be stated as varying between three weeks and two months.

10. That when the injections are given every second day it is very rare to observe any unpleasant systemic effects of the mercury ; and that even when they are pushed more than this, these effects are never as severe as when mercury is pushed to a similar extent by the mouth.

11. That the relapses after this treatment are equally as frequent, as rapid, and as severe in character as when mercury is given in other ways.

12. That there are unpleasant local effects of the injections, such as pain of the puncture, pain over the site of injection, induration of the connective tissue, and abscesses.

13. That in many cases the pain is very slight, and soon ceases to

trouble the patient; but that in others it is so severe and persistent as to necessitate a discontinuance of the treatment; and that in every case, some slightly unpleasant local effects are experienced from the use of the injections.

14. That in exceptional cases, the injections cause a low grade of inflammation in the subcutaneous connective tissue, producing a decided induration in deep portions of the derma; and that, owing to complications which might perhaps arise from this condition later on, it is advisable to discontinue the injections in these cases.

15. That this induration may be observed in many cases in which it is only of an ephemeral character.

16. That if proper care is used in administering the injections, abscesses will rarely, if ever, occur.

17. That it is absolutely necessary that the patient should be both intelligent, and, at the same time, thoroughly impressed with the gravity of his disease, in order that he may comprehend the advantages he is to derive from this mode of treatment; otherwise, he could not subject himself to the inconveniences which are inevitably experienced in the course of the treatment.

18. That while in dispensary and hospital practice the injections may be frequently given, in private practice the smallness of a patient's means may often be an obstacle in the way of the continuance of the treatment.

Finally, that while in some cases the treatment may be useful by reason of its rapid action and in others, for the smallness of the dose, the inconveniences which it produces, the objections of the patients, and the presence of lesions which contra-indicate its use, confine its sphere of usefulness to very narrow limits.

Art. 4.—*The Selections of Cases for the Operation of Subcutaneous Division of the Neck of the Thigh Bone.**

By William Adams, F.R.C.S., Surgeon to the Royal London Orthopædic and Great Northern Hospitals.

(*The Medical Press and Circular*, June 14, 1871.)

After observing that the operation of subcutaneous division of the neck of the thigh bone, which he first proposed, had now been successfully performed five times, and only once, for fibrous anchylosis in a child, with an unfavourable result, the author stated that bony anchylosis is the result of several morbid conditions, differing as to the destructive, or non-destructive character, as affecting the bones.

When bony anchylosis has taken place as the result of strumous disease of long standing, and accompanied with abscess, destruction of the head and neck of the bone frequently occurs, the disease being essentially of a destructive character.

On the other hand, when bony anchylosis has taken place, as the

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* Abstract of Paper read at the Medical Society of London.

result of acute rheumatic inflammation, no destruction of bone ever occurs, and the head and neck of the bone remain of the full natural proportions.

This is an important pathological law, and, as a rule, the same may be said in cases of bony anchylosis after pyæmia, and traumatic inflammation in adults.

In confirmation of Mr. Adams's opinion that in many cases of bony anchylosis of the hip-joints, the head and neck of the thigh bone remain of their full natural proportions, whilst in other cases they are more or less destroyed; but only in some instances to such an extent as to prevent the subcutaneons division of the neck of the thigh bone being performed, the author referred to the specimens in the principal museums of London, and stated that out of thirty-three specimens referred to, division of the neck of the thigh bone could be performed in twenty-one cases.

After stating that the diagnosis in reference to the shortening of the neck of the thigh bone could be made with certainty, the author stated the following as the conclusions to which he had arrived.

1st.—That in rheumatic anchylosis, no destruction of bone ever exists.

2nd.—In anchylosis, after pyæmic inflammation, destruction of bone rarely exists, the soft structures only being destroyed.

3rd.—In anchylosis, after traumatic inflammation in healthy adults, no destruction of bone occurs, as a general rule, even after acute suppurative inflammation, the soft structures only being destroyed.

4th.—In anchylosis, after strumous disease of the joint, when arrested in the early stage, only superficial caries of the head of the bone occurs, and the operation can generally be performed.

5th.—In anchylosis following the more severe forms of strumous disease, in which there has been evidence of caries and necrosis of bone, destruction of the head and neck of the thigh bone may be diagnosed, and in these cases the operation cannot be performed.

Thus, it will be seen, that out of the five classes of bony anchylosis above described, in three classes the head and neck of the thigh bone remain of their full natural proportions. In the fourth class, although some difficulty may occasionally be met with, the operation can generally be performed, and that it is only in the fifth class of cases that the operation is decidedly negatived.

Art. 5.—*On the Estimation and Detection of Sugar in Diabetic Urine.**

By Meymott Tidy, M.D.

(*Medical Times and Gazette*, June 3.)

The first circumstance that attracted notice was the ordinarily high

* Abstract of a Paper read at a Meeting of the Medical Society of London, April 3.

specific gravity of diabetic urine; yet some specimens loaded with sugar had almost a normal specific gravity. This was difficult of explanation, unless solids may be present in liquids in different molecular states. Ordinary urinometers are not to be trusted, some being correct within ten or fifteen degrees. The presence of torula cerevisiæ is not to be regarded as any proof of the existence of sugar. No less than three kinds of fungi are to be found in diabetic urine, and all three without a trace of sugar. With reference to the different kinds of sugar found in diabetic urine there was—(1) the ordinary grape-sugar; (2) a variety resembling misilæ; (3) one differing from both these, and remarkable in several particulars. Passing to the chemical tests, the author remarked that if carbonic acid was to be collected for the purpose of estimating the quantity of sugar, it was better collected over oil than any other way, and if great accuracy were required, he suggested allowing the carbonic acid to pass into baryta water, the precipitate being weighed as a sulphate. 1. Dr. Roberts, of Manchester, had suggested taking the specific gravity both before and after fermentation, and from this estimating the amount of sugar present. The test gave very variable results. At one time very accurate, at another very inaccurate results had been obtained. 2. The copper test was valuable, although there were several bodies that interfered with its action, and, as a quantitative test, Dr. Tidy had very little opinion of it, as it was impossible to mark the exact point where the blue colour had disappeared. 3. Moore's test: The dark colour due to molassic acid produced when diabetic urine was boiled with potash solution. A series of solutions were placed on the table containing different but known quantities of sugar, but in each the same quantity of alkali. They ranged from 0·25 gr. of sugar to 2·0 gr., and the difference of tint was perfectly marked. Dr. Tidy proposed this, an adaptation of Vogel's method, for estimating sugar. The method of working was as follows:—A potash solution containing 1 gr. of potash to every septem (7 gr.) of water having been made, take 10 septems of the urine, add 10 septems of the solution; boil for one minute, dilute with distilled water in a four-ounce phial (similar to those used for the test solutions), and then compare with the test solutions labelled as containing known quantities, until the exact tint is found. The small quantity of urine employed does not colour the water so as to interfere with the test. If any precipitate is produced by boiling, it must be filtered. If the tint was more than that indicated by two-grain standard bottle, it must be marked and diluted. The experiment made gave—

1·25 gr. in 10 septems 12· 5 gr. in 100 „	}	=17·86 per 1000 gr. of urine.
12. 5 gr. in 700 „		=about 8·6 per oz.

Dr. Tidy proposes to get rid of the trouble of the standard solutions by using gelatine coloured of different tints, as standards for comparison.

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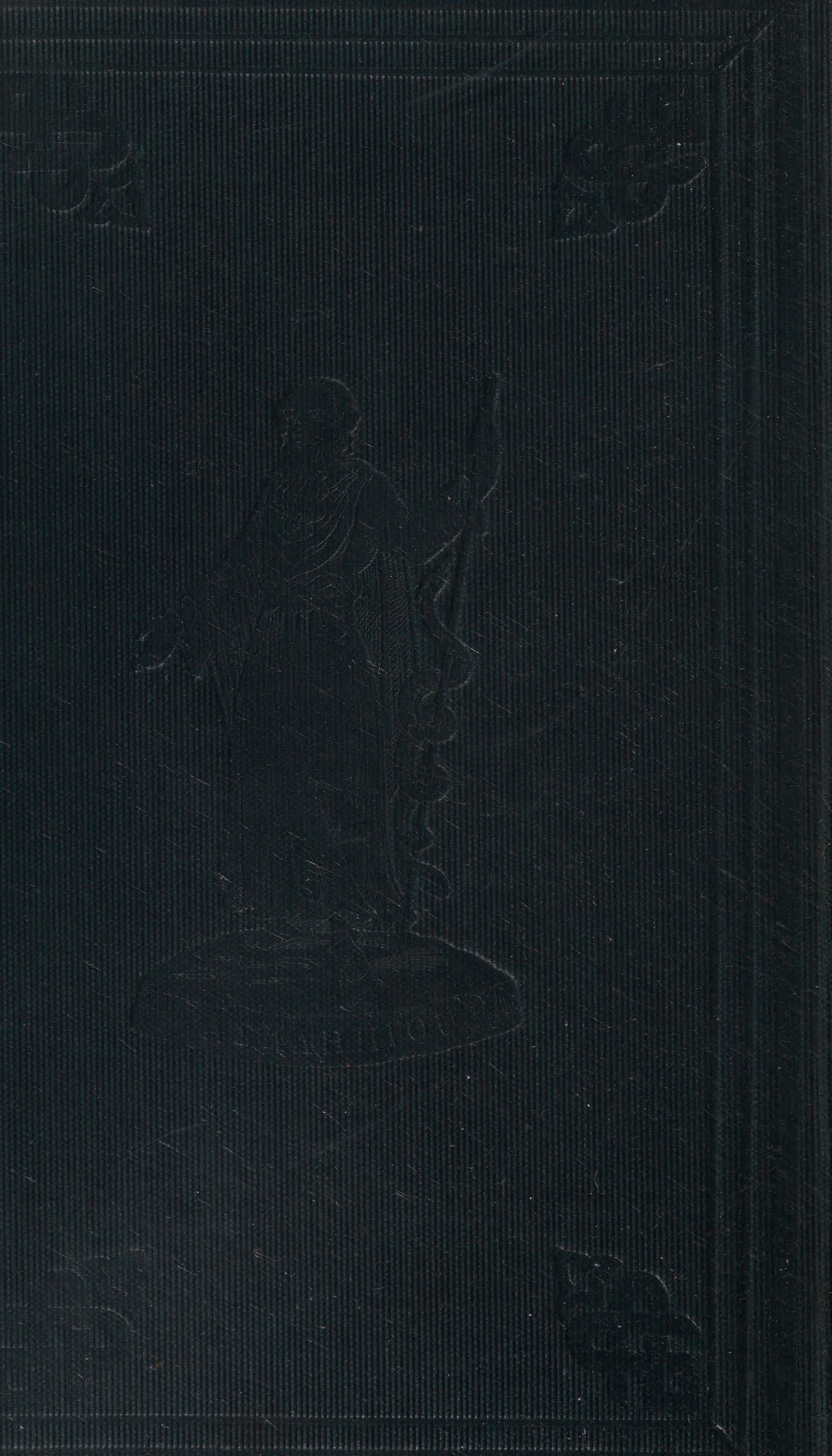
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